ABSTRACT OF A

Post-graduate Address

ON

MEDICAL TREATMENT, PAST AND PRESENT.

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PROFESSOR CHARTERIS commenced by expressing great regret at the retirement of Dr. Leishman from the chair of Midwifery, but trusted that the University of Glasgow would continue to enjoy the advantage of his counsel and opinions as an Emeritus Professor. He then briefly reviewed the position of medicine with regard to present bacteriological knowledge. "The whole tendency of modern medical thought," he said, "is towards the prevention of disease by the discovery of the cause, which in the case of a few infectious diseases appears to be a definite, infinitely small structure. Permit me to place shortly before you what has up to the present date been determined as to these structures. With one notable exception, to which I shall afterwards allude, they belong to the lowest form of vegetable cells. The cell-wall consists of materials allied to the carbo-hydrates, and inside the cell there is granular protoplasm, devoid of a nucleus. The cells multiply by division, or by the formation of spores, which are surrounded by thicker and stronger walls than the bacteria from which they develop. They are thus endowed with more vitality and are able to withstand to a much greater extent extremes of heat, cold, drought, and the like. In a favourable environment bacteria grow and multiply very rapidly, but—and this is a curious point—as the result of vital processes they give rise to chemical products which are alike antagonistic to the life of the micro-organisms themselves and to that of any vital tissue with which they may come into contact. Thus they excite putrefaction and fermentation and when developing in the living organism occasion the changes which are commonly considered characteristic of infectious diseases. These bacteria are individualised and when introduced into a living healthy organism cause in it one, and only one, kind of disease. The micrococcus of an abscess will not produce typhoid fever, nor will the bacillus of tubercle occasion diphtheria. By altering their environment we can, in some cases, deprive these bacteria of their noxious influence. By repeated cultivations they become weakened, but, however weakened, they will not give rise to a different kind of disease. There are three characteristic forms of bacteria—globe-shaped (*micrococci*), rod-shaped (*bacilli*) and spiral-shaped (*spirilla*). Of these the micrococci are always found in the pus of pure abscesses, and distinctive forms are found in pneumonia and erysipelas. The bacilli are associated in a specific form with anthrax, glanders, tuberculosis, typhoid fever, tetanus, and possibly with diphtheria. Of the spirilla we can say that they are always found in the blood of a patient suffering from relapsing fever. Koch's cholera bacillus, from its peculiar construction called "comma" bacillus, is not, after all, a bacillus but a spirillum.

The invasion of pathogenic microbes is in some cases localised, and the poison thus locally developed is carried by inoculation over the system, in the same way as from the vaccine puncture there arise the papule, the vesicle and the pustule. In other cases the invasion is not localised, but the infection is general, the microbes being found in the blood and different organs. In either case, sooner or later, fever or systematic disturbance sets in from the enormous multiplication of toxines or albumoses. In some cases they are not allowed to multiply unresisted, for a warfare ensues between the leucocytes, or white corpuscles of the blood, and the invading micro-organisms. Researches on the living daphne have demonstrated that, when bacilli are introduced into it, the living cells seize them and effect their complete destruction; it may be noted in passing, however, that this process of destruction has been attributed to the defensive proteids which are found in blood serum. Further, it is proved that the white corpuscles and other cells in animals, protected by previous inoculation, exhibit a different action from those not so protected. If the bacilli of anthrax are introduced into a healthy, unprotected animal, the leucocytes or phagocytes are neutral; they do not resist the progress of destruction and the bacilli increase and multiply in the blood and in the tissues, and the animal dies. But if the animal be protected by an inoculation of the chemical substance prepared from anthrax cultures then a very different state of matters is noted, for the white cells move towards the seat of infection and envelope and devour the bacilli, which are to be seen in their interior in various stages of dissolution. The invading army is defeated, the warfare ends, and the animal with the acquired immunity is safe."

Having thus briefly summarised the more salient points of bacteriological knowledge, Professor Charteris went on to consider how far all these minute inquiries, these patient and laborious researches into the origin of disease, had advanced the treatment to be adopted in specific cases. He pointed out that it would not do for practical men in an essentially practical age to shelter themselves behind learned disquisitions on pathogenic microbes. "The most sober, most absolute, and most positive science of medicine," to use Lord Salisbury's words at Oxford, must, if it desire to justify its title to these epithets, take a practical view of the question, How does procedure in medicine stand side by side with recent bacteriological research? For example, he said, suppose that we were called to the bedside of a patient suffering from an infectious disease initiated by a specific micro-organism, what could we do? The answer to this inquiry depended upon whether we saw the patient at an early or at a late stage of his illness. If at an early stage, we could do much; if at a late stage, our efforts could not be so effective. Typhoid fever, again, was associated with a specific bacillus, and in epidemics this bacillus was generally proved to have gained an entry into the system from an infected milk supply, from sanitary defects in drains, and, in its sporadic form, from an impure cistern or from insufficient flushing of drainage pipes in individual households. Taken into the system by water or by milk it was reasonable to suppose that its growth and multiplication, during the first eight or ten days, was limited to its site on the mucous membrane of the small intestine near the ileo-cæcal valve, and that it did not until after this period extend to the mesenteric glands or cause enlargement of the spleen. The early stage was obviously the time when any remedy employed as a germicide could satisfactorily exert its action. So calomel and other agents had been given at this period, and with good results.

Professor Charteris then alluded to an experimental research with reference to carbolic acid which occupied his time for nearly two years, and a report of which was published.[1] "Two forms of carbolic acid," he said, "are found in commerce, the one melting at 33° C. and the other at 40° C. The latter we may designate pure, the former impure. I found that the impure acid, when injected into full-grown rabbits in a two-grain dose, invariably caused death preceded by convulsions, whilst the pure acid was not lethal in an eight-grain dose. I found, further, that the pure and impure acid had equal germicide properties and in definite solutions checked the development of the micro-organisms associated with typhoid fever, diphtheria and tuberculosis. Subsequently a pill of two grains and a half was prepared by Mr. Macmillan, chemist, of Glasgow, from the pure acid and an innocuous powder. This pill was coated with keratin, and when so coated it was ascertained that it melted in an alkaline solution similar to that of the intestinal canal, but that it did not break up in an acid solution similar to that of the stomach. It was found, further, by experiments upon healthy persons that these pills could be administered thrice daily for a week without causing any discolouration of the urine or any other constitutional symptom. In these doses they were therefore perfectly safe. This research was carried from the laboratory to the bedside, and the action of the pills was tested in typhoid fever at the Belvidere Fever Hospital, Glasgow. The trial extended over twelve months and established the fact that carbolic acid administered in the pilular form caused no irritation of the stomach, that in forty-eight hours, if given when the fever was entering upon the second week, the temperature was lowered, and that convalescence was established at least a week sooner than when the fever was allowed to run its usual course. If the fever was further advanced, say from the fourteenth to the seventeenth day, the administration of the pills in the same doses, by their antiseptic action, was beneficial in arresting the excessive diarrhœa, in checking the fetor of the stools, and in so promoting recovery."

[1] Brit. Med. Jour., Dec. 31st, 1892.

Professor Charteris related the clinical history of the two cases which illustrated the beneficial use of carbolic acid in this manner. He then proceeded to the question of the treatment of erysipelas. "Here," he said, "the researches of Fehleisen clearly show that the disease is excited by a chain-forming micrococcus in the lymphatic vessels and serous canaliculi of the diseased skin, and that a breach of surface, difficult at times no doubt to recognise, affords an entrance of the organism into the system. Doubtless, also, various conditions aid its development, as, for instance, defective sanitary arrangements and individual predisposition; yet we must consider it in the main an infectious disease. Hence the reddened surface should be covered by a coating of ichthyol, and at the border line between the diseased and the whole skin pure carbolic acid should be injected. The occurrence of tetanus is also associated with a bacillus, which, existing in the soil or in dust, effects an entry into the system from an open wound or from an abrasion of the cuticle when such soil or such dust becomes attached to the broken surface of the skin. From its peculiar shape it is termed the 'drumstick bacillus.' It has been cultivated outside the human body, and attenuated cultures have been injected and have caused tetanus. This anti-toxine treatment, in the hands of continental surgeons, has been found in some cases to be successful in arresting tetanic convulsions and in others in modifying their severity. With regard to tuberculosis, although Koch's tuberculin treatment is a matter of great regret, yet from its failure it has brought into more prominence the kind of agencies which are of real use in tuberculous disease. Thus creasote and guaiacol, noted antiseptics, have been tried internally, and favourable reports of the results have been published." Professor Charteris pointed out at length that the attempt to treat phthisis by local germicides in no way made it less likely that the most important beneficial agent to be advocated in such cases was still climate, equable and stimulating, in which connexion he was in the habit of recommending to a certain class of patients a sojourn in Colorado. He concluded his examples of improved modern procedure by referring to animal injections and the treatment of myxœdema and hydrophobia. "The treatment of the former," he said, "has now been successfully settled, and it has been based upon a correct appreciation of the intimate connexion which pathological observations and experimental research have shown to exist between the disease and the thyroid gland; for in myxœdema the thyroid gland atrophies and we observe an increase of jelly-like mucus and consequent œdema of all parts of the body. There are loose, baggy swellings on the lips and eyelids, the cheeks are dry and brawny, the hands are red, swollen, and spade-like, the temperature is persistently subnormal, and mind and body are equally inactive. When the fresh moist lobe of the thyroid gland of a sheep is carefully administered day by day something is supplied to the system which increases the tissue waste; there are heightened activity of the circulation and diminution of the œdema. In course of time the temperature becomes normal and the painfully distressing physical and mental symptoms disappear. So far as can be at present determined it is necessary for the patient to take at stated intervals a portion of the fresh gland, or tabloids prepared from it, and to *steadily pursue* one of these methods. With regard to hydrophobia, the careful experimental research upon animals initiated by M. Pasteur has shown that a dog can be so completely protected from the virulence of the hydrophobic virus that no symptom of rabies is produced in him either by the direct bite of a rabid dog or by the injection of rabic matter. As with the dog, so with man, and M. Pasteur has proved that the lives of human beings in whom the virus of hydrophobia was incubating could be saved. His statistics prove that since 1886 the average mortality at his Institute has been a little over 5 per cent. on a total number of 12,782 persons treated. Surely these statistics are staggering blows to the anti-vivisectionists. We must remember also that the great French *savant* is a humane man, for when upbraided for cruelty in a public assembly he uttered these remarkable words: 'I never had the courage to kill a bird in sport, but when it is a question of experiment I am deterred by no scruples. Science has the right to assume the sovereignty of its aims.'"

Professor Charteris then enumerated the general conclusions to be derived from these facts. "We have seen," he said, "in all acute diseases that there are certain prominent symptoms which show in what manner the whole or special parts of the system are affected. These symptoms did not, of course, escape the acute observation of physicians of the past, but in former times physicians could not get beyond the symptoms, for the causes were hidden from them. Medically our lines have fallen in pleasanter places, and, thanks to the unwearied labours of scientists, medical and chemical, we are able to choose with almost absolute certainty the remedy which will act on the cause of the symptoms. Thus in fever we now know that the increased temperature of the body is caused by the action of poisons, which deprives the heat centre in the brain of its controlling power, and chemists have put into our hands synthetic remedies—derivatives of phenol, such as antipyrine, antifebrin, phenacetin, phenocoll—which in fever act especially on this part of the nervous system. Again, in some acute diseases there may be local pain, and this we can alleviate by cocaine. There may be restlessness, sleeplessness, and low delirium, and we can now call to our aid a new class of hypnotics—sulphonal, paraldehyde, or chloralamide. In ailments dependent upon no micro-organism, but yet not less inimical to happiness and health—I refer to chronic ailments—we have numerous new agents at our disposal, and also old friends, whose action we can now better understand. Thirty years ago, when the heart's action was observed to flag and circulation to become feeble, digitalis was given indiscriminately and with no proper knowledge of its pharmacological action; for when the heart's action was quick and the pulse intermittent and rapid the same remedy was also given. It was supposed in both conditions to have a depressing, a sedative action on the heart. We now know its action to be the reverse. It strengthens the heart, and its action is not depressing, but tonic. We now know when to give and when to withhold this remedy and its recently discovered ally, strophanthus. In later years we have also in heart disease learned to appreciate Oertel's system of graduated exercise and the benefit which results from the baths of Bad Nauheim in Germany. The utility of electricity, again, although as a curative agent in grave nervous affections it may be questioned, has an importance which cannot be gainsaid. Symptoms of failing physical powers, due to nervous derangements, may through it be traced and localised, and appropriate treatment by rest, diet, climate or drugs may be put early in force and average health retained. Judiciously used, the constant current gives refreshing intervals of repose to those who are struck down with a hopeless cerebral or spinal affection. We can, by injections of pilocarpine and its action on the secretions, relieve the kidney of much of the work thrown upon this organ in chronic nephritis. Angina pectoris is relieved by the inhalation of nitrite of amyl and the daily administration of nitro-glycerine, which, whilst it does not cure, affords pauses of perfect freedom from that most distressing and most painful malady; and last, but not lenst, a remedy has perhaps been found 'for the swooning sickness of the dismal sea.' The days of the Sairey Gamps are over, and we have instead of them carefully trained and highly intelligent nurses who, in the wards of the hospital or in the sick-room of the private patient, carry out our orders with due discretion and great fidelity; and with pure drugs and with a rational interpretation of symptoms we seem to see therapeutic progress all along the line."

An Address
ON
ACUTE INTESTINAL OBSTRUCTION RELIEVED BY ABDOMINAL TAXIS.

Delivered before the Leeds and West Riding Medico-Chirurgical Society on Oct. 13th, 1893,

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IN bringing the following case before the profession I must admit to feeling a large responsibility, and the responsibility increases when it is borne in mind that, supposing our case made good, it may lead to the adoption more frequently in this district of a line of treatment which up to the present time has been looked upon with a sort of contemptuous criticism—a criticism in which, personally, I have very frequently joined, so much so that, up to the occurrence of the case about to be reported

to you, Mr. Hutchinson's treatment of intestinal obstruction was always graphically before my imagination in the shape of big perspiring policemen, an equally perspiring practitioner, and amongst them a patient literally upside down, having a copious enema pumped into him. There is a mediæval ring about such proceedings something like the old fashioned treatment for intestinal obstruction figured in an old volume, where the patient was being tossed up in a blanket as was Sancho Panza. It, therefore, behoves us to be very careful with our premisses prior to bringing a case like this before *confrères*, to prove that it really was one of acute intestinal obstruction and nothing else, and also that it was really cured by the methods adopted, archaic though they may be termed. They were literally effected by the aid of two strong and willing policemen, whose exertions were scientifically directed by my friend Mr. Lawford Knaggs, to whom I must express my great obligation for the invaluable assistance given to me in the treatment of this case.

A married woman aged thirty first consulted me on June 27th for an attack of diarrhœa. This was very severe, but she made a good recovery, and by July 5th my attendance ceased. On Thursday, July 20th, she came to my consulting-room and was obviously extremely ill; her face looked pinched and her body was bent forward; she complained of vomiting and fearful abdominal pain, which had begun suddenly that morning. Her bowels had been moved on the previous day. She said her menstrual period should have begun six days previously, but had not come on, and she thought that the pain was due to this. Ten drops of tincture of cannabis indica were ordered, it being thought that the pain might possibly be menstrual. Towards night I received a message saying that the pain was no easier and that the vomiting occurred every few minutes. The bowels had not been moved and no flatus had been passed. On examining the abdomen most carefully nothing definite could be made out, and there was certainly no particular localised tenderness. Copious enemata were ordered, as well as eight minims of liq. opii sed. every two or three hours by the mouth. On the following day (the 21st) the patient's condition certainly seemed to be better; the vomiting and pain for the time being had ceased. Still no localised tenderness was to be made out, and no evacuation or flatus had been passed.—On the 22nd the menstrual flow began, and later on the pain and vomiting recurred. She had been somewhat delirious during the previous night. A morphia suppository was ordered and repeated towards evening. The vomiting and pain diminished. The pulse remained fairly good. Up to this time there certainly had been no fæcal vomiting, although the ejected matter was distinctly bilious. On the 23rd (Sunday), in the morning, the patient's condition remained about the same. As the bowels did not act, however, and as no flatus passed, I administered a large enema with negative result and found the rectum empty and ballooned. I informed the patient's husband that unless an evacuation occurred very shortly one of two things would have to be resorted to—viz., either an abdominal section or abdominal taxis. With regard to the latter I spoke with great reserve, but said that if the symptoms did not markedly improve by the morning I would consult with Mr. Knaggs and we would then settle whether I should open the abdomen or whether we should try the taxis. I felt, personally, that if ever there was a case where the latter might be tried this was one. Towards evening the patient's symptoms became worse. The vomiting recurred and was stercoraceous. On examining the abdomen there was visible peristalsis. A morphia suppository was ordered and an effervescing morphia and hydrocyanic acid mixture was given. On the 24th (Monday) the patient's condition was again easier in the morning. In the afternoon Mr. Knaggs saw the patient with me; by this time the vomiting had recommenced and was offensively stercoraceous. Peristalsis was obvious on examining the abdomen. We now agreed that the case belonged to that class in which the obstruction was produced by nipping of the intestine, possibly by a band or by the gut slipping through an aperture, or in some such manner, and consequently was one in which taxis was suitable; and, further, that the patient's condition was such as not to negative it. With the consent of the patient's friends it was decided to perform taxis at once, and if relief was not obtained I was to perform abdominal section on the same night. The next thing to do was to secure good muscular assistance. The husband of the patient was a policeman, and he secured the assistance of a fellow-constable. Two strong women were also available. The patient was placed fully under the influence of ether while on her bed, and was then removed to the bedroom floor, when the following treatment was adopted. While she was kept fully under the anæsthetic the abdomen (after a careful examination to ascertain whether there was anything to contraindicate taxis) was forcibly kneaded from side to side. She was then turned over and shaken backwards and forwards. This done, the trunk was turned feet uppermost, and the patient was shaken upwards and downwards. Whilst she was in this position a copious enema was given. The whole of the proceedings were carried out with vigour and method, and lasted for half an hour. At the commencement of the taxis gurgling was marked in the right hypochondrium, but before the taxis was concluded it was diffused all over the abdomen. No indication other than this was given, before we left the house, that we had done any good. The patient was put to bed. Two hours later, on visiting her, we found that she had passed three motions, of which one was very large and contained the enema; another was of fair size, fluid, and very offensive; and the third, which had just been passed, was the darkest in colour and the smallest in quantity (probably from twelve to sixteen ounces) and extremely fetid. Further motions were probably prevented by a morphia suppository, which was given on account of some abdominal discomfort and restlessness; but on Wednesday, the 26th, a solid motion of enormous proportions was passed, and from this time onwards there has been no difficulty with the bowels. After the effects of the ether had passed away vomiting absolutely ceased. The general appearance of the patient greatly improved and there was freedom from pain. She was kept upon liquid diet for a week, and then solid food was allowed to be taken. The patient was out of bed in a week after the taxis, and on Aug. 7th left home and is now in her usual health.

In drawing conclusions from this case I feel bound to follow largely Mr. Hutchinson's lines. I conclude that the general feeling of the surgical profession agrees in urging early operation. One well-known surgeon says: "I would urge that laparotomy should be performed as soon as the diagnosis is fairly clear and, if possible, within the first twenty-four hours." My own experience certainly bears out Mr. Hutchinson's statement when he says: "I deny that it is ever possible to make more than the merest guess as to 'acute strangulation by a band' in the early stage of the case, and I deny that acute obstruction is synonymous with strangulation by a band. To these denials I append an assertion that the evidence is in favour of the belief that these forms of strangulation are often in the early stages effectually relieved *without* operation—that, in fact, cases of recovery without operation after very acute symptoms are not uncommon." Mr. Hutchinson further says: "I appeal to the fact that hernial protrusions often slip back spontaneously or with exceedingly little manipulation, and that in these internal strangulations the conditions are often such as to admit of the very easiest replacement. It is a mistake to suppose that all strangulations are from the first tight ones." One more remark of Mr. Hutchinson I should like to quote; he says: "He who aims at operating within twenty-four hours will, I suspect, but very exceptionally find his diagnosis confirmed. It is not possible at that period to say whether obstruction—i.e., obstipation—exists or not, and cases of gall-stones passing the common duct, of enteritis, of acute typhlitis, and acute peritonitis may, each in turn, present all the other symptoms with quite equal severity." Personally I would add to this list, having seen in this district all the symptoms of acute intestinal obstruction, lasting for several days, produced by lead poisoning from drinking-water.

In conclusion, is not the question for settlement: When ought we to operate? There is a feeling that it would not be justifiable to dogmatise from the experience of an isolated case, but at the same time one cannot but think that in properly selected cases there is a very strong argument to be drawn from the foregoing in favour of "the use of early anæsthetics in all cases, and abdominal taxis only in appropriate ones."[1] In fact, has not a good case been made out for what may be termed a scientific caution and delay before opening the abdomen and subjecting the patient to the very questionable benefit and the very certain risk of an operation undertaken upon somewhat insufficient evidence as to its actual necessity or expediency?

[1] Hutchinson's Archives of Surgery, vol. i.

THE HYGIENIC AND THERAPEUTIC ASPECTS OF CLIMBING.

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MOST people regard climbing and other modes of exercise as matters of daily life, about which everyone can easily judge for himself; but, nevertheless, they deserve the serious consideration of medical men. The subject is so large that I can here only enter on a few of the many points connected with it. Climbing, for persons with healthy organs, is one of the most useful exercises, as it increases the activity of all the organs of the body and at the same time occupies the mind, and all this in pure air. Roughly speaking, it may be said that by the increased action of the voluntary muscles the circulation and respiration are intensified, thus leading to increased metabolism in every tissue, including the nerve centres. Unfortunately, climbing cannot be practised everywhere, for the simple reason that mountains are not to be found in all localities. A moderate degree of climbing can, however, be obtained in many parts of Great Britain, and in some districts even rather stiff climbing. The real "playground," however, in Europe for thorough climbing is the Alps. Long tours can be made there, offering every day new ground, new features of beauty, varied work on glaciers, rocks, snowfields, and also the more homely green slopes and lower mountains. The main climatic conditions—viz., rarefied and dry air, lower shade temperatures and strong insolation—form important elements in Alpine tours. A great change in diet, mostly diminution in quantity and in nutritive power, has likewise to be taken into consideration, and not less so the entire change in the surroundings. Such tours can be recommended therapeutically as means for regaining and promoting health and energy and as tending towards longevity; and they can be arranged according to the state of the organs and the general condition of health, including the climatic elements to be desired in the case of each person. The most frequent cases coming under this head are those of men, and also women, who have worked hard mentally in their various occupations, such as literary men, scientists, teachers, and other professional men, who have not taken sufficient open-air exercise, have perhaps taken at the same time more food than was useful to their systems, and who, in consequence, have become irritable, sleepless, dyspeptic listless, depressed, and unable to concentrate their thoughts—they have, in short, lost mental and bodily energy. In these cases, if they are free from so-called organic disease, a tour in the Alps of from three to eight weeks' duration usually exercises a better effect than any other form of holiday. Habits and mental constitution have, however, to be taken into consideration. There are many who are so attached to yachting, shooting, deer stalking, fishing, and other active sports that a climbing tour would be a source of constant mental irritation, and would therefore be less beneficial than the accustomed holiday sports. Those who are inclined for a climbing holiday and are unacquainted with such modes of exercise must be advised to commence slowly and to put the heart, the bloodvessels, the lungs and the muscles *gradatim* into training, and to test their powers judiciously before they undertake difficult peaks or glacier passes. Further, they should not return directly from violent exercise to continued sitting occupations and suddenly leave off active exercise, but they ought to gradually diminish it and continue to take a certain amount during their usual occupations. The most usual effects of a judicious climbing tour are the return of natural sleep, the disappearance of mental irritability, the ability to concentrate thought and form a clear opinion, and the improvement of digestion. Again and again I have seen persons who were disturbed every night by painful forms of flatulence and palpitation, which had resisted other treatment for months and years, lose their discomforts after the first or second week of mountaineering. This is probably due to the improved state of the portal circulation, which is forced into activity by the movements of the voluntary muscles of the limbs and the more powerful action of the heart induced by the accelerated return of the blood from the extremities. I may mention here that the influence of climbing on the heart, though visible in everyone, varies very much in different persons. Thus in a party of five, including guides, I found that after a first climb of about 4000 ft. the pulses of the five varied in frequency from 76 to 132, and also in other qualities. This difference was partly due to the want of habit of climbing in some, for it diminished after a week's active climbing to from 74 to 122 after a similar ascent, and later to from 74 to 105; but it was also partly due to differences in the nervous system and to irritability of the heart. The difference in other qualities of the pulse—in rhythm, in volume, in the quickness of the rise—were likewise well marked, and also the gradual changes effected in them by regular climbing; but these are not so easily described. Good sphygmographic tracings would be useful, and some years ago, when on a tour with my son, Dr. Parkes Weber, the latter took sphygmographic tracings which I thought interesting, but perhaps clinical sphygmographs are still too imperfect for such purposes.

The beneficial effects of climbing tours, though more easily adapted to persons in earlier manhood, are perhaps still more strikingly seen in those past the climax of energy or after the age of forty-five, and up to that of sixty-five and more. The muscular power, the condition of the skin, the action of the heart, the respiratory, digestive, and uro-genital functions, the whole nervous system, especially the memory and ability to perform mental work, all show a distinct rejuvenescence. We may imagine that this is effected by the increased activity of the smallest capillaries and lymphatic vessels, possibly the reopening of disused ones, and in consequence increased renovation of tissue. The effects on the colour and turgor of the skin are obvious to every observer, and in many persons with grey hair and beard the greyness becomes temporarily diminished a short time after a successful climbing tour. I could also mention many cases of persons who had been in the habit of going to spas like Homburg, Harrogate, Carlsbad and Wiesbaden, on account of dyspepsia, sluggish portal circulation, rheumatic and gouty troubles, but who finally obtained greater and more lasting benefit from well-adapted climbing tours, followed by active and abstemious habits. It is generally considered that men above fifty-five or sixty years of age should cease to climb, but this rule allows of many exceptions. It must depend, not so much on the number of years, as on the state of the tissues and the maintenance of the habit of exercise. A man over fifty or sixty years of age who has never climbed ought to begin with the greatest care and only if there are no signs of disease, especially of atheroma and senile degeneration; but a man who has kept up the habit of active exercise and occasional climbing often is able to take moderate climbing tours with great advantage far beyond the age of sixty. As an instance, I may mention a medical man who between the ages of thirty and fifty years was always at the end of the season so much exhausted by insufficient exercise and sleep that he required a whole week and more of training before he could do any climbing, but who after fifty years of age began to take regular and sometimes comparatively severe walking exercise, even during the period of hard professional work, with the result that he could in the holidays almost at once begin to climb, and was still able to do so in a moderate way at sixty-seven and sixty-eight years of age—viz., to walk and climb for from six to ten hours every day over glacier passes and ascend peaks of altitudes of from 10,000 ft. to 12,000 ft.

Bad effects, however, are likewise occasionally observed as being caused by climbing tours, partly from overlooking defects in the heart and bloodvessels or in the lungs or nerve centres, and partly from insufficient training before the commencement of tours requiring great exertion. To the former group belong the two following cases.

CASE 1.—This was that of a very muscular and strong, slightly corpulent man aged fifty-six years, with hereditary gouty taint from his father, who had died at the age of sixty-four from apoplexy. He was an active man, but more with regard to brainwork than to physical exercise, which, however, he did not altogether neglect. He was a free liver, and, though temperate in the usual sense, took every day three glasses of sherry, and occasionally had port wine and champagne. He was considered to be a healthy man. He joined some younger friends in walking from Zermatt by the Riffel Alp to the Gorner Grat, and when close to the top had a first attack of angina pectoris: but after a short rest he was able to enjoy the view and to descend without much difficulty. This occurred in August, 1881. The attacks recurred after his return to England, and he died in an attack of syncope in January, 1882, with calcification of the coronary arteries

and atheromatous patches in the aorta. These, no doubt, had existed before the climbing tour.

CASE 2.—This was that of a fairly strong man thirty-six years of age who had had slight hæmoptysis and early left-sided phthisis at the age of seventeen, but had apparently entirely recovered. He was able to finish his university career, and was occupied in a large manufactory. After having worked very hard during the summer of 1875 he took a holiday in the Dolomites, and had ascended several small and easy peaks without any inconvenience when he went up the Marmolata, over 12,000 ft. high, and on descending had slight hæmoptysis. This continued for some days, and ended in rapid phthisis, which caused his death within six months of the occurrence of the first attack of hæmoptysis. Besides the recent changes calcareous masses were found in the left apex. The lesson to be learnt from this case, which is a type of similar though less striking ones, is that those with quiescent or obsolete phthisis ought to be careful with regard to too active climbing. It is very probable that this man, if he had kept to small and easy tours, requiring not more than from three to five hours' walking with moderate climbing, would have derived much benefit from his tour.

As an instance of danger from hard climbing in a state of imperfect training the next case may be mentioned.

CASE 3.—The following is the case of a man aged forty-six, apparently in perfect health, whose life had been passed as "first class" by one of the best insurance offices in London a short time ago. He was a City man, of somewhat luxurious habits, who had taken little exercise for some years, though he was formerly a good Alpine climber. He went directly from London to the Saas valley, and within the first week walked from the little Mattmark Hotel over the Adler Pass to Zermatt, a walk of twelve hours' duration, with some stiff climbing and glacier work. He became much fatigued, especially during the long descent, and could not take any food when he arrived at Zermatt. After some days he tried moderate tours, but had in ascending shortness of breath, with a dull pain in the region of the heart. When I saw him three months later the area of heart dulness was increased, the pulse was often irregular, between 60 and 72, and the heart's sounds were dull, without a bruit. I regarded the case as one of overwork of the heart, leading to dilatation. About fifteen months later a small quantity of albumen was, at first occasionally after food, but later on regularly, found in the urine; a dull, systolic mitral bruit likewise developed, and the case took the features of arterio-capillary fibrosis, or fibrous degeneration of the heart and bloodvessels, and terminated with uræmic coma three and a half years after the injudicious climb. It is almost certain that this man would have been much improved in health if he had continued for a fortnight with small tours, which had agreed with him very well, instead of undertaking a very fatiguing one too soon.

Bad effects of a slighter nature are by no means rare and are fortunately often remediable. Thus I have repeatedly seen slight admixture of albumen with the urine, mostly without distinct casts and without blood globules, and lasting generally for only a couple of days. More frequently headache, nausea, inability to take food, and great lassitude occur, but these symptoms disappear after a few days' rest with restricted diet. Other indications of physical overwork show themselves in great frequency and irregularity of the pulse (up to 130 and more). It may fall after some hours' rest to about 100, but mostly remains at or above 90 for several days in persons whose usual pulse does not exceed 75. The pulse cannot well be separated from the heart, and though I have not examined the latter's behaviour on climbing as often as that of the pulse, I have occasionally received a warning from it. As a rule, under favourable circumstances the moderate increase of the pulse-rate is accompanied by an increased impulse of heart and by rather more pronounced first sounds; and the relative length between the first and second sounds and the second and next first is maintained. In several cases, however, when the climbing had led to breathlessness and great rapidity of the pulse, to 132 and 136, the first sound was rather indistinct and the interval between the first and second sound was very short, pointing, Sir W. Broadbent would probably say, to imperfect systole and the commencement of the diastole before the systole was completed. It took one or more hours' rest before the natural rhythm was restored. In one of these cases a rise of temperature to 102° F. occurred at night, while during and immediately after climbing it was from 98° to 98·8°. In these cases, on the diminution of the exertion on the succeeding days, the natural rhythm was scarcely disturbed, and two of them bore later, after having become accustomed to climbing, considerable exertion without suffering from breathlessness or from change of rhythm of the heart. In one of my companions, a very active man aged thirty-two, but with a rather weak muscular system, a remarkable phenomenon was observed on two occasions after comparatively moderate climbs (to 8000 ft. and 9000 ft.) in the neighbourhood of Grindelwald. On his return home, somewhat exhausted, in the evening, the second aortic sound was replaced by a musical murmur, heard at the middle of the sternum and a little to the right; the first sound was rather indistinct. The pulse ranged from 105 to 112, feeble, and not like the pulse of regurgitation. On the following day the murmur had disappeared and the sounds were normal, the pulse being 88. Two days later, after a similar climb, I heard the same musical murmur, which again disappeared on the following morning. I urged him not to attempt any more climbing, and heard later that he had returned to work in good health; but seven years after this occurrence I received the news that he had suddenly died from "Herzschlag," probably syncope. Other warnings are occasionally given by the bodily temperature, which in a healthy person, climbing within his or her powers, ought to remain nearly natural, but which may become increased to 100°, 101°, and 102° at night after too hard climbing. This indicates the necessity of rest, which suffices generally to reduce it to the natural point within from twelve to twenty-four hours. Dr. Clifford Allbutt[1] has carefully watched the natural curves of his own temperature before as well as during a climbing tour, and has come to the conclusion that exertion under favourable circumstances tends slightly to raise the bodily temperature for the time, the elevation being compensated by a rather "earlier occurrence of the evening fall." This conclusion I can in the main corroborate, although I cannot claim that I have studied my own and my companions' curves before and during climbing so carefully as he has done; but my impression is that my own curves are not so regular either under ordinary circumstances or during climbing, and, further, that the rise during climbing is less marked. More rare than the rise seems to be the fall of temperature. Dr. Clifford Allbutt noted on himself a depression to 95·5° on reaching the Grands Mulets (10,007 ft.) from Chamonix on Aug. 17th, but it is uncertain whether this can be ascribed to climbing alone; for on Aug. 20th, at 5 30 A.M., on rising (at Chamonix) he was astonished to find his temperature 95·4°, a fall which was followed by an attack of diarrhœa. Dr. Marcet,[2] who took his temperature under the tongue, gives an important contribution on this subject. He came to rather different conclusions—namely, that the bodily temperature becomes invariably diminished by the act of climbing, and more so if this is done upon an empty stomach or if the climbing is associated with mountain sickness. The fall of temperature at elevations between 7000 ft. and 13,000 ft. was from 2·5° to 4·3°. He further found that on resting the temperature rises rapidly to about its normal degree. Dr. Lortet of Lyons, whose paper I cannot, unfortunately, at present procure, came to similar results on his ascents of Mont Blanc. In my own numerous examinations on my companions, guides, and myself I have only rarely met with such considerable drops of temperature. Occasionally a fall of from 1° to 1·5° was recorded, and this was usually associated with insufficient ingestion of food. Only once in myself a fall from 98 6° to 97° occurred near the top of the Great Aletschhorn (about 13,500 ft.) at about noon, after a very fatiguing climb from soon after midnight, with little food at first, and total inability to take it towards the end of the ascent on account of mountain sickness. This fall was associated with great breathlessness for about two hours and a very frequent, weak, and rather irregular pulse of from 128 to 135. A similar fall occurred in one of my companions on the ridge of the Eiger (about 13,000 ft.), where he was seized with nausea, vomiting, and diarrhœa. The temperature fell from 98 5° in the morning to 96 8°, and the fall lasted for several hours, in spite of rest in his not very comfortable position. The pulse was 116, very feeble, and rather irregular. The temperature became nearly normal after the descent. A similar but greater fall to 94 6° and 95 4° occurred twice in a

[1] Proceedings of the Royal Society, No. 136, 1871, and Alpine Journal, May, 1891.

[2] Observations sur la Température du Corps Humain à Différentes Altitudes, à l'État du Repos et pendant l'Acte de l'Ascension. Archives de Sciences Physiques et Naturelles, tome xxxvi., p. 247, 1869.

young, ill-nourished Italian porter on the Breithorn and again at the Zwillings Pass (about 13,000 ft.), and was followed on the first occasion by normal and on the second by slightly raised temperatures (99·8°). The temperature in my experiments while climbing was mostly taken under the tongue, but occasionally in the axilla, and only rarely at night in the rectum.

How are these peculiar falls of temperature to be interpreted? Dr. Marcet seems to think that the available force of the body being limited, the large amount taken up by motion leaves an insufficient quantity for the production of heat. I was inclined to adopt a similar explanation, but on further thought the matter does not seem to be quite so simple. In all the cases which came under my observation the fall was associated with excessive shortness of breath, very feeble and frequent contractions of the heart, and usually with nausea. Rest from climbing was not always followed by recovery of the normal temperature, as the case of my companion who was attacked by mountain sickness on the ridge of the Eiger shows. The main phenomena seem to be associated with the pneumogastric centre, and it occurred to me that possibly the nervous mechanism for heat regulation may be influenced by the pneumogastric centre. I am unfortunately not sufficiently acquainted with the effect of other severe bodily exercises on the temperature. Dr. Pavy, in his most interesting papers on the Effect of Prolonged Muscular Exercise on the System,[3] gives an account of Weston's (the great American walker) temperature before, during, and after his walks. Sometimes there was only a slight fall, at others none. Long walks in hilly parts of England often cause me great fatigue, a frequent, weak pulse (120 and more), but never a considerable drop of temperature—sometimes an increase of a few tenths of degrees, sometimes a slight decrease. I regret to have no experience about hard rowing, or about the relations of sea-sickness to bodily temperature.

It is occasionally a difficult matter to decide whether persons with some pathological complication ought to be allowed to climb. No one would think of permitting persons with atheromatous affections, disease of the aortic valves, very weak or dilated hearts, advanced emphysema, active phthisis, or Bright's disease to climb. In all these conditions I have seen bad effects follow even moderate climbing, especially in disease of the aortic valves. Fairly hard riding is sometimes borne, as in the case mentioned by Dr. Lauder Brunton,[4] but even moderate climbing taxes the heart more than the hardest riding. On the other hand, there are morbid conditions about which one may be doubtful. Such a one is old mitral disease, with perfect accommodation and good general health. I know of some men who could climb moderately and derive benefit from it; I have myself crossed the Theodul Pass (10,000 ft.) with a man aged thirty-eight who had had mitral disease since boyhood, and who could keep his health only by great bodily activity, shooting, deer stalking, hunting, and climbing. The climb from Breuil had influenced his heart much less than mine; it had raised his pulse only from 68 to 95, while it had raised mine from 74 to 122. Although one often speaks of a heart with old affection of the mitral valves as of a heart with mitral valve disease, such a heart may frequently be considered as healthy, and may be more vigorous and more useful than many ordinary hearts with perfectly healthy valves but with weak musculature. On the other hand, I have seen great harm follow even moderate climbing in recent mitral affections of rheumatic origin, and in cases inclined to acute and subacute rheumatism, and also in imperfectly cured inflammatory sciatica; while in ordinary chronic rheumatism with normal or subnormal temperature I have often seen great benefit derived from judicious climbing. I have myself repeatedly had at the end of the season rheumatic pains in the arms and finger-joints to such a degree that the ice axe slipped from me on the first trials owing to imperfect closure of the hands, but after less than a fortnight's exercise I have become quite free from pain. Many years ago, on meeting the late Dr. Brinton in the Tyrol, I discussed some points of Alpine therapeutics with him, amongst them being the question as to whether cases of slight albuminuria of obscure nature, sometimes intermittent, were suitable for climbing tours. He was inclined to answer this in the affirmative, while I regarded it as hazardous, partly on account of the great strain on the capillary vessels, which were not healthy in some of these cases, and partly owing to the occasionally unavoidable exposure to wet and cold on long Alpine tours. Dr. Brinton assured me, however, that in his case climbing removed the headache and "mental dimness and sluggishness" in a marvellous way, and sometimes the albumen for many days; but I ought to mention that in Dr. Brinton's case the beneficial effects of the Alpine tours were enhanced by the fact that he took in the Alps very little food besides milk. Further experience has convinced me that the risks are too great to countenance climbing in such cases, excepting in those where a very slight passage of albumen with the urine is a remnant of an affection long past, such as scarlet fever or syphilis.

To one point more I will allude—namely, that climbing has been accused of bringing on aortic aneurysm, but I think without sufficient reason. I do not forget in saying this the case mentioned above of the musical aortic murmur produced by moderate ascents, but in this case the root of the aorta and the aortic valves were probably not sound when the climbs were attempted. Alpine climbers, past and present, certainly do not suffer more from aortic aneurysm than other men, and the exertion of climbing does not tax the aorta as much as severe rowing or the injudicious use of dumb-bells. Possibly the fact that two excellent physicians, dear to all who knew them—Dr. Sibson and Dr. Hilton Fagge—who had both been climbers in former years died from aortic aneurysm has given rise to the idea. Their climbing, however, had, I think, nothing to do with the aneurysm. Dr. Sibson, many years after his first ascent of the Lyskamm, enjoyed perfect health; he was, however, in the habit of flourishing a very heavy iron stick every morning on his walk before breakfast with the view of exercising the muscles of his arms. Dr. Hilton Fagge had long given up climbing, on account of the limited holidays he allowed himself, before the first symptoms of his rapidly progressing disease showed themselves; but he, I confess, was perhaps never in a condition to countenance very active climbing during holidays.

The matter is different with regard to aneurysm of the femoral arteries and their continuations, as these arteries are much more taxed during climbing. With regard to this matter, I cannot forget having met, in 1863 or 1864, the late Dr. King Chambers at Zermatt, when he described the difficulty he had experienced "in dragging his legs" to the top of the Grauhaupt and over the Theodul Pass (both about 10,000 ft.). During the following winter popliteal aneurysm developed itself. Those who remember this amiable and accomplished physician know that he was fond of spending his leisure in sketching, that he took little active exercise, and recommended generous living. It was therefore no wonder that his arteries were rigid and could not stand the great strain.

I will abstain from discussing any further points, but I think I have said enough to show: (1) that judiciously arranged Alpine tours deserve a place in general therapeutics; (2) that they can be rendered eminently beneficial by adapting them to the capacities and requirements of each case; (3) that Alpine tours need not be restricted to the period of the greatest vigour, but may be used also in favourable cases after the climax of life for the recovery and preservation of health and energy, and the prolongation of life; and (4) that it is, however, necessary to forbid climbing to persons just recovering from acute disease, to those affected with some chronic or quiescent disease (phthisis, arterio-capillary fibrosis), or with senile decay, and except with great caution to those who are out of training or affected with obesity.

Grosvenor-street, W.

[3] THE LANCET, Feb. 26th, and March 4th, 11th, 18th and 25th, 1876.
[4] Rest in Cardiac Affections, Practitioner, vol. v., p. 190, 1893.

IS THERE A DEXTROCARDIAC-RESPIRATORY REFLEX?

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THE object of this paper is to suggest for the consideration of physiologists the question whether there is not a physiological reflex from the right ventricle of the heart to the respiratory centre similar to that from the left ventricle to the vaso-motor centre along the depressor nerves, and with a similar function—viz., the automatic relief of over-distension of the ventricle. The suggestion is founded on the following observations of clinical phenomena.

1. *The dyspnœa of pericarditis.*—I have lately had under

my care at St. Mary's Hospital a youth of seventeen years of age suffering from a first attack of rheumatism. He had felt rheumatic pains for about a fortnight before admission, but had been really ill for only five days. On examination he was found to have rheumatic swelling of the wrist and commencing pericarditis. Distinct pericardial friction sounds could be heard over nearly the whole surface of the heart, especially at the base and towards the apex, and the cardiac dulness was increased, for it extended from the right border of the sternum to half a finger's breadth outside the left nipple line. There was only the smallest possible patch of pleurisy; there was no pneumonia and no valvular murmur, yet the number of respirations was 36 in the minute, the pulse being only 100 and the temperature 102·5° F. On inspection the respiratory excursions of the thorax were seen to be markedly greater than normal. This was not due to any paresis of the diaphragm caused by the pericarditis, for the epigastrium became prominent during each inspiration, and the diaphragm was acting quite normally. Nor is this all; the sterno-mastoids were working, and even the nostrils were dilating. Clearly the respiratory centre was stimulated to increased action. What is the explanation of this phenomenon? There was no obstacle to the flow of blood through the lungs or hindrance to the access of air; there was no valvular disease of the heart—in short, there was nothing but the pericarditis. The pericardial inflammation had produced dilatation of both sides of the heart, as was evidenced by the increased percussion dulness, and the muscular structure of each ventricle was no doubt rendered less efficient. The failure of the left ventricle showed itself in the softness and shortness of the pulse; that of the right ventricle produced, I would venture to suggest, the dyspnœa. But how? Not, I think, by the medium of cyanosis. The boy's face and lips were not dusky; he had been ill for only a few days; and, considering the absence of any disease of the lungs, it is probable that there was very little defect in the aeration of his blood. How, then, was his very obvious dyspnœa produced? I would suggest that it was due to the working of an automatic reflex from the right ventricle to the respiratory centre, called into action by the acute failure of the right ventricle resulting from the pericarditis or by irritation of the subpericardial nerves. The same phenomenon—an early and acute dyspnœa—occurs ordinarily in cases of pericarditis; but no explanation of it, as far as I am aware, has been given. It is sometimes very marked, occasionally even causing orthopnœa; but this case presents the question in an unusually uncomplicated manner, for there was no affection of the lungs and almost none of the pleura, and no previous or present valvular disease. The dyspnœa was the result of the pericarditis and of nothing else.

2. *The sudden and agonising dyspnœa of pulmonary embolism.*—Three years ago a young man, twenty-three years of age, who was under my care at St. Mary's Hospital for pleuritic effusion on the left side, while using the bedpan (the nurse standing by his bedside), was suddenly seized with great dyspnœa, became cyanosed, and called out, "Give me air, give me air!" The house physician was at once summoned, and found the patient *pale*, so that he feared internal hæmorrhage had occurred. He at once aspirated the left pleura, removing forty ounces of serous fluid, and injected strychnine and digitalis subcutaneously. Finally, the patient was wet-cupped over the back to four ounces; this seemed to give some relief. I saw the patient four hours after the seizure; he was then sitting up in bed, his face was ashy-livid, and his breathing sighing (32); his pulse was compressible (140). Deep inspirations could now be heard all over both lungs, though mingled with pleuritic rub-crackles on the left side. The cardiac impulse was felt over a much larger area than before, it was very forcible in the epigastrium, and was distinctly felt to the right of the sternum. Fortunately I had examined his heart on the previous day, and had specially noted that the cardiac impulse could not then be felt to the right of the sternum, although the left pleura was full of fluid. Yet now, though the fluid had been withdrawn, the impulse was easily felt to the right of the sternum, and it was much more violent in the epigastrium than previously. It was clear that the right side of the heart was distended and acting strongly. There was no murmur. Venesection to six ounces was at once performed; after this he felt easier, and there was decidedly less violent pulsation. The next day he was much less distressed, though the nostrils were still dilating and the breathing was somewhat gasping; the heart's impulse could not be felt at all to the right of the sternum. On the following day he was decidedly better; the cardiac impulse could not be felt anywhere. There were still rather marked expansion of the chest, descent of the diaphragm, and dilatation of the nostrils. A loud, rough pleuritic rub could be heard all over the left side and good entry of air everywhere. He left the hospital convalescent; but a year later he was readmitted, dying from acute tuberculosis.

It cannot be doubted, I think, that the cause of this patient's agonising distress was the occurrence of a pulmonary embolism. The sudden check to the aeration of the blood caused the cyanosis, which at once became manifest, and the impeded supply of blood to the left ventricle produced the pallor which, combined with the cyanosis, caused the peculiar ashy-livid tint of his complexion when I saw him. Possibly the cyanosis may be the explanation of the intense dyspnœa which was at once manifested, but I was much struck with the evidence of an acute dilatation of the right ventricle and with the relief that was afforded by venesection. The withdrawal of blood produced marked diminution of the dyspnœa and also of the physical signs of cardiac dilatation, and both improved *pari passu* during the next two days. Now the removal of blood could not influence the clot in the pulmonary artery; it could only relieve the extreme pressure which the obstacle to the pulmonary circulation had caused in the right ventricle. Hence it seems to me probable that the dyspnœa was dependent, not simply on the cyanosis, but also on the overstrain on the right ventricle, and that even the intense dyspnœa of the sudden onset was due to an acute dilatation of the ventricle quite as much as to the rapid cyanosis. It seems to suggest that the great strain at once thrown on the ventricle stimulated intensely a normal reflex to the respiratory centre.

3. *The paroxysmal dyspnœa of mitral stenosis.*—In some cases of mitral stenosis, quite apart from the chronic shortness of breath, bronchitis, pulmonary congestions, hæmorrhages and infarcts, there occur from time to time paroxysmal attacks of dyspnœa, lasting usually for several hours if not cut short by treatment. These attacks begin with increasing difficulty of breathing, but not suddenly, and there is often a sense of oppression at the chest which may finally become distinct precordial pain. The number of respirations rapidly increases to 30, 40, 50, or even 60 per minute, the frequency of the pulse rising to 120, 150, or even 200. The patient is in great distress and is usually very pale, often sweating profusely; not infrequently there is vomiting during the attack, occasionally flatulence, and sometimes coldness of the limbs. Careful percussion of the heart during such an attack will often give clear proof of the presence of temporary dilatation of the right side. I have myself verified this on several occasions. Two methods of treatment will often cut short such attacks: one is the withdrawal of blood by leeches or venesection; the other is the subcutaneous injection of the thirtieth or twenty-fifth of a grain of atropine. I have several times seen an attack arrested in ten or fifteen minutes by such an injection. As an illustration I may quote the case of a boy of sixteen years of age who was under my care at St. Mary's Hospital for several months during the years 1890-91-92, whose mitral orifice at the necropsy barely admitted the tip of my little finger. He had many attacks of dyspnœa of the kind above described and on several occasions was rapidly relieved by atropine injections. On Dec. 30th, 1891, I witnessed an attack. The boy was sitting upright in bed, his face very pale and covered with a cold sweat, taking rapid deep inspirations and looking like a person thoroughly exhausted from running. The number of inspirations in the minute was 48, the pulse rate 140. The cardiac dulness extended from two fingers' breadths to the right of the right margin of the sternum to one finger's breadth to the left of the left nipple line; his presystolic murmur had vanished and was replaced by a short tricuspid systolic murmur. Three minims of liquor atropinæ (B.P.) were injected. Eight minutes later his breathing was not deeper than normal, though still 48 in the minute, and the pulse was still 140. A few hours later it was found that the area of dulness on the right had receded to the mid-sternum. The following day I saw him again and noted that the respirations numbered only 28 and the pulse 90. I found that the cardiac dulness did not pass to the right of the mid-sternum, there being resonance at and beyond its right edge. The tricuspid murmur had vanished and the presystolic mitral had returned. He died in a dyspnœal attack of this kind, and his lungs post mortem were found to be extremely insufflated, not collapsing when removed, but showing no consolidation. The mitral orifice admitted only the tip of the little finger; the left ventricle was small; the right ventricle was dilated,

forming the entire front of the heart, and hypertrophied, its muscular wall measuring three-tenths of an inch in thickness—precisely the same thickness as the wall of the left ventricle.

In attacks of this kind it is not always possible to demonstrate clinically the temporary dilatation of the right side of the heart, but often it is unmistakable, and the fact seems to throw a light on the causation of this paroxysmal dyspnœa. It seems to indicate an acute failure of the right ventricle to overcome the high tension in the pulmonary circuit, and to be analogous to the angina which sometimes is the result of an acute failure of the left ventricle to overcome increased tension in the aorta. If the dilatation of the right heart does produce this peculiar dyspnœa, in what way is the effect brought about? There is no great degree of cyanosis, yet the respiratory centre is acting strongly, for the inspirations are both rapid and deep. The vomiting which not seldom accompanies such attacks, the relief afforded by atropine, and the fact that occasionally an attack appears to be brought on by fright seem to indicate that there is a neurotic element in their causation. But that does not consist in a spasm of the bronchioles, for during the paroxysm there is not the general wheezing of an attack of asthma. The phenomena appear to me to afford support to the hypothesis that there is a nervous reflex from the right ventricle to the respiratory centre, and that when the ventricle fails excitement of this reflex causes dyspnœa.

4. *Cardiac dyspnœa in general.*—What is the causation of ordinary cardiac dyspnœa? It is characterised by a sort of air-hunger, and cannot be accounted for simply by the physical changes in the lungs which may result from cardiac disease. It is often much more severe than such resulting changes would account for, and it may exist when no such changes can be demonstrated. The check to the pulmonary circulation no doubt causes a deficiency in the aeration of the blood, but not for a long time sufficient cyanosis to account for the dyspnœa. It is well recognised that in cases of mitral disease the effectiveness of compensation depends on the vigour of action of the right ventricle. When there is marked epigastric pulsation compensation may be effectual in mitral disease, and there may be no dyspnœa; but if the right ventricle fails dyspnœa is at once observed. Is this through non-aeration of blood? Is it not more probably through excitation of a normal reflex to the respiratory centre?

5. *Dyspnœa of muscular exertion.*—Is not this due to the arrival of venous blood in the right side of the heart more rapidly than the ventricle is competent to pass it on into the lungs? Hence the tension in the right ventricle rises, the muscular walls tend to dilate, and a stimulus probably ascends to the respiratory centre, whereby more rapid and deeper inspirations expand the pulmonary channels and so relieve the labouring ventricle. Is not the management of the breath, which is a main part of the training for athletic exercises, simply an education of the right ventricle?

As to the path of this hypothetical reflex, it may be suggested that its afferent part is through the superficial or the deep cardiac plexus into the vagus. Possibly an irritation of this reflex through pressure on these plexuses may be the explanation of the paroxysmal dyspnœa observed in some cases of aortic aneurysm, which also, as I have seen, may sometimes be almost immediately arrested by subcutaneous injections of atropine.

It seems to me also probable that a stimulating reflex exists from the right ventricle to the *vaso-motor centre*, which manifests itself in the increased arterial tension observed in mitral stenosis and in emphysema, but which is masked in the dilatation of the right ventricle (resulting from mitral regurgitation) by the depressing influence on the vaso-motor centre exerted by the dilated left ventricle. Such a stimulating reflex from the right ventricle to the vaso-motor centre would increase the tension in the coronary arteries and thus promote the nutrition, and therefore the strength of contraction, of the right ventricle, in the same way as was observed by Professors Roy and Adami after narrowing the aorta.

Weymouth-street, W.

ADELAIDE HOSPITAL, DUBLIN.—The Hudson Scholarship, which consists of a gold medal and £30, has this year been conferred on Mr. G. W. Eustace, and the Hudson Prize, silver medal, and £10 on Mr. Bertram D'Olier. Mr. J. Cecil Edge obtained the medical prize and also the surgical prize.

THE SEQUEL OF A PUBLISHED CASE OF HYSTERO-EPILEPSY.

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PROFESSOR OF MEDICINE, ST. MUNGO'S COLLEGE, GLASGOW.

THE early history of this case was recorded by Dr. McCall Anderson in THE LANCET of July 12th, 1879. The form of hysteria under which the patient suffered was then attracting a great deal of attention, especially through the writings of M. Charcot, whose death, still recent, is so great a loss to medicine. The features of peculiar interest in the cases which he and other French physicians had described were the effects of metallo-therapy and magnetism on the anæsthetic element of the disease and the phenomena of transference from one side of the body to the other. It will be seen from the following abstract of Dr. Anderson's account of his case, which will be first submitted, that the symptoms and the results of treatment by these agents were just as striking as those mentioned by the continental observers.

A domestic servant eighteen years of age was admitted into the Glasgow Western Infirmary on Feb. 14th, 1879, suffering from "fits." There was nothing particular in her family or previous personal history. She had only menstruated once, and that was about a month before her admission into the infirmary. Her illness was of three years' standing and had followed an attack of typhus fever. At first the seizures had been of monthly, but latterly were almost of daily, occurrence. If at any time she was startled, her left leg and arm, especially the latter, became firmly contracted for a moment. There was complete left hemi-anæsthesia of taste, touch, temperature, and pain. The deep as well as the superficial parts were anæsthetic. Thus a needle could be thrust into the muscles without the patient feeling it; the needle punctures bled only slightly. The mucous membranes on the affected side were also insensitive. There was amblyopia and almost complete achromatopsia of the left eye. There was some, but not great, impairment of power on the same side. On deep pressure in the region of the left ovary that organ was found to be enlarged and hyperæsthetic. The convulsive seizures were of the ordinary hystero-epileptic type. Treatment by metallo-therapy and the application of magnets was fully tried. It was found that the nervous symptoms were influenced to a certain extent by the application of gold coins to the affected side of the brow; there was restoration of tactile sensation and that of pain over a part of the brow, and partial recovery of the colour-sense. Elsewhere on the affected side the anæsthesia continued complete; but this was very speedily altered by the action of the magnet. As its effect in the ward of the infirmary was the same as that produced by it when the girl was brought before a largely attended meeting of the Medico-Chirurgical Society about a fortnight after her admission, I shall quote the result as demonstrated at that meeting in Dr. Anderson's own words: "1. The ordinary magnet with keeper on had no effect, though used for at least ten minutes. 2. A large electro-magnet was employed by my colleague, Professor McKendrick. So long as the current was not allowed to pass there was no result, but in three minutes after the current was turned on, without her being made aware of it, the sensation returned to the left side of the body, while the right became anæsthetic and analgesic, being the reverse of her state before the electro-magnet was used." The magnet was brought near the patient, but did not actually touch her skin. It is well to state that care was taken, both by the appointment of a special committee of supervision and by the blindfolding of the girl at the time the observations were made, to eliminate all possibility of dissimulation by the patient—indeed, it was clear to me and to all those to whom I spoke that the idea of deception could not be entertained. The report goes on to state that on March 19th "internal metallo-therapy was resorted to—that is, the internal administration of the metal which, applied externally, caused a transference of the phenomena. Lead being one of the metals in question in this case, the acetate of lead in doses of two grains was given in pills thrice daily." Six days afterwards sensation returned somewhat suddenly to the left side. The left ovarian tenderness was also less, but partial colour-blindness remained. This was her condition when she left the infirmary on April 5th, 1879. Her leaving was owing to a quarrel with one of the servants;

it is particularly noted that she had been very troublesome during her residence. The subsequent career of this young woman was a very sad one. On Oct. 20th of the same year that she was dismissed from the Western Infirmary she was certified to be insane and sent to the City Parochial Asylum under my care. Soon after admission into that establishment she had a series of fits of a hystero-epileptic type. However, there was no recurrence of the anæsthesia, except to a slight extent on one occasion, when there was also partial loss of colour-sense. The outstanding features of her disorder were ungovernable temper and savage, unprovoked, and highly dangerous attacks on fellow patients and attendants. These unpleasant characteristics, it may be here said, were prominent in her subsequent confinements in asylums. Her first residence lasted for eighteen months. From the date of her dismissal until her death, which occurred on April 28th, 1893, she was a certified lunatic on eight different occasions. The total duration of her residence in institutions for the insane during this period was nine years. The later detentions were more protracted than the earlier ones. Thus from July 1st, 1886, till she died she was for only two years and two months a free agent. When last in the City Asylum she was under treatment for seventeen months. At the time of her admission she was in an advanced stage of pregnancy. She was then melancholic, but this was the only occasion on which her mental disorder assumed that form. Its aspect soon changed, and she had become maniacal before her child was born. The attack of mania was very acute and very prolonged; indeed, though the excitement had subsided to a great extent, she was still excitable and somewhat incoherent when removed to Dumfries Asylum in January, 1892. She was sent there with the hope that a change might act favourably on her health of body as well as of mind, for her general condition was not good. In her new quarters her bodily health improved for a time, but she ultimately succumbed to pulmonary phthisis. She died insane. It is important to note that the convulsive seizures became gradually fewer and appear to have ceased in the year 1886, without treatment directed specially towards their removal. There was no indication of their recurrence during pregnancy or the puerperal state.

Now that the case is closed, and that a survey can be taken of it from beginning to end, what conclusions are suggested respecting its nature and associations? It is obvious that there was throughout its whole course an intimate relation between the hystero-epilepsy and mental unsoundness. Even at the outset, when she was in the Western Infirmary, it can scarcely be doubted that the violent temper she displayed and her quarrelsome disposition were but the initial indications of the disturbance of psychic function which ultimately culminated in an attack of acute general mania. It would almost seem that the epileptoid and mental disorders held to each other in some degree a vicarious relationship; for during the years she was having convulsive fits at intervals, even though her violent conduct and ungovernable temper warranted and required her temporary confinement in an asylum for the insane, her mind was otherwise usually clear and vigorous; but after the fits ceased her attacks of insanity came at shorter intervals and were more severe, terminating, as mentioned, in generalised acute mania. There is further evidence of the substitutionary tendency of the disorder, at the early part of her illness, in the ready transference of the anæsthesia from one side of the body to the other under the action of a magnet. It is worthy of remark—though somewhat of a digression—that this form of temporary anæsthesia is quite different from that which in some cases accompanies the ephemeral palsy of the affected side in unilateral convulsions. The latter passes away in an hour or two, even sooner than the loss of motor power.[1] The mental condition of the patient illustrates well the wide difference between hysteria of the type from which she suffered and ordinary "nervousness" in the popular sense. She was an excellent singer and always a much appreciated performer at the asylum concerts. When at her liberty she was also in the habit of singing at the public concerts of the city. In view of the instability of her nervous system I was much impressed by her perfect coolness and self-possession when singing before large audiences. What is the underlying pathological condition of the peculiar nervous phenomena in this and similar cases? The word "instability," just used, expresses, though somewhat vaguely, an idea of its character. It is probably akin to the condition that arises in the hypnotic state. Temporary abeyance of function in related parts of the encephalon existed in my patient when anæsthesia was established; and so it apparently is under the fiat of the hypnotiser. But its intimate pathology is still hidden: the nature of the molecular change that is doubtless present is not known. M. Charcot properly insists on the essential difference between hystero-epilepsy and epilepsy, and he refers to the preservation of mental power in the former as one of several distinguishing features. This is unquestionably true; the two conditions have only a superficial resemblance. But, while agreeing with his dictum that there is no weakening of the intellect in the sense of slowness of apprehension and general obscuration, such as is usual in epilepsy of several years' standing, when the fits are of frequent occurrence, it is equally clear, as already stated, that there is marked instability; in this respect the mind is enfeebled. Though there is no particular reference to that point in M. Charcot's lectures on hysteria, still a perusal of the record of his cases of hystero-epilepsy produces the impression that the patients were wayward and unsettled and that the distance between their usual mental state and complete insanity was not great.

In conclusion I may remark that it is unfortunate for this class of patients that the striking phenomena of their nervous disorders prove to be so attractive to medical and other observers. The knowledge they soon acquire that their cases are of exceptional interest tends to concentrate their attention on their peculiar troubles, thereby maintaining and sometimes even intensifying the morbid state of the nervous system on which their disorders depend.

Newton-terrace, Glasgow.

[1] Though I directed attention to this variety of anæsthesia in the Presidential lecture of the Glasgow Pathological and Clinical Society in 1879 (Glasgow Medical Journal, December, 1879), I have not yet seen it referred to by other observers. It has, however, some bearing on a question respecting which there is at present marked difference of opinion—namely, the sensory endowment of the so-called motor convolutions.

ON THE REPORT OF THE LEPROSY COMMISSION IN INDIA, 1890-91.

A CRITICISM.

BY G. ARMAUER HANSEN, M.D.,
INSPECTOR-GENERAL OF LEPROSY IN NORWAY.

THE Commission has treated all the questions in connexion with leprosy with great ability and thoroughness, and were I to go through the whole report this review would grow too long, especially as, on several points, I differ from the Commissioners. I will therefore only give the conclusions of the Commissioners in their own words and make some remarks thereon.

1. "Leprosy is a disease *sui generis*; it is not a form of syphilis or tuberculosis, but has striking etiological analogies with the latter." This is perfectly true.

2. "Leprosy is not diffused by hereditary transmission, and for this reason and the established amount of sterility among lepers the disease has a natural tendency to die out." With the first part of these words I of course agree, but not with the deductions of the Commissioners; they very properly point out the difference between a congenital and a hereditary disease, but nevertheless they say "it is obviously fatal to the conception of an hereditary transmission of a constitution acquired from the parent if it be established that such conditions never appear congenitally." In my opinion the congenital appearance of a disease is a proof of the disease being contagious and not hereditary. A congenital disease and a congenital formation or malformation are two very different things. The Commissioners, by statistical researches on the spread of leprosy in India, have come to the conclusion that heredity has nothing to do with its propagation, but to conclude from this that the disease has a natural tendency to die out seems to me rather rash. It would follow that every disease not recognised as hereditary ought to have the same tendency, whereas that of course depends on the cause of the disease.

3. "Though in a scientific classification of disease leprosy must be regarded as contagious and inoculable, yet the extent to which it is propagated by these means is exceedingly small." To this conclusion the Commissioners are led by only finding eight cases for which contagiousness might be

answerable, and some of them of little value. I have no doubt that with closer scrutiny the Commissioners would have found more cases, especially among those Europeans who have contracted the disease in India. Judging by the description of Indian patients and their surroundings, it must be very difficult to obtain reliable histories, but among Europeans this ought to be much easier, and a single positive case proves more than a hundred thousand negative ones. Regarding Case 4 the Commission has nothing to say to invalidate its importance than: "But the statement of the patient and that of the old inmate of the asylum are considerably at variance as to dates; and it must always be remembered that in a country like India, where leprosy is endemic, it is quite possible that the patient may have acquired the disease from some other source than the asylum—in other words, that the case may have been only a coincidence." When neither the Commissioners nor any one else know of any other source for the leprosy of this patient it seems to me that this possibility weighs very little against the probability that he had been infected in the asylum through his intercourse with lepers; but there is a natural tendency to form our ignorance into a possibility, and later on to use this possibility or our ignorance as an argument against probable inferences and conclusions. Even when the facts are so comparatively clear as in Norway, I know, from manifold experience, how difficult it is to clear up the history of leprous cases, partly because few people remember their exact doings and whereabouts eight or ten years previously, and partly because, with us at least, lepers very often do not tell the truth. I do not wonder, then, that the Commissioners have not obtained more proof for the contagiousness of leprosy in India; but when they admit leprosy to be a contagious and inoculable disease surely they are rash in saying that "the extent to which it is propagated by these means is exceedingly small" only because they were unable to trace the probably hidden and insidious ways by which the contagion is spread.

4. "Leprosy is not directly originated by the use of any particular article of food, nor by climatic or telluric conditions, nor by insanitary surroundings; neither does it particularly affect any race or caste." This conclusion is proved by exact researches as to the spread of leprosy in relation to the use of fish and salt, and as to the occurrence of leprosy in the different nationalities and castes in India.

5. "Leprosy is indirectly influenced by insanitary surroundings, such as poverty, bad food, or deficient drainage and ventilation, for these, by causing a predisposition, increase the susceptibility of the individual to the disease." In other words, they say there exists a predisposition to leprosy, which is merely transforming ignorance into assumption. Baumgarten declares that no rabbit exists which cannot be made tuberculous, and in like manner I believe that any human being may become tuberculous or leprous, provided that living bacilli are introduced in a favourable manner and place. The Commissioners, in my opinion, bring forward no evidence for the existence of such a predisposition. From their own researches it appears that leprosy affects all nations and all castes. That there are fewer lepers among Brahmins and Europeans than among the lower castes has probably its natural reason in the former not exposing themselves so often or so freely to the causes producing leprosy, whatever these may be, as the latter. Nor have the Commissioners in any way demonstrated how the predisposition arises. The poor in all societies always suffer most from the ravages of microbial diseases; but this does not prove that they have a special susceptibility to those diseases, but only that the microbes find among them the best conditions for growth and propagation.

6. "Leprosy in the great majority of cases originates *de novo*—that is, from a sequence or concurrence of causes and conditions, dealt with in the report, and which are related to each other in ways at present imperfectly known." If the Commissioners had said that it is not known how leprosy originates they would have been more straightforward than in their pretence to know something. When they admit the bacillus lepræ as the cause of the disease they should demonstrate the bacillus living, under certain circumstances, as a saprophyte, if they are to maintain the origin of leprosy *de novo*. They found leprosy bacilli in the earth of paths trodden by lepers at the Almora Leper Asylum, but they do not know whether the bacilli were living—indeed, it is never known whether those which are merely seen are alive. It has been maintained that the bacilli in leprous tubercles are dead and that there is no criterion by which this statement can be disputed so long as the organism cannot be cultivated. Beaven Rake, Buckmaster, and Thomson have reported successful cultivations, but have since admitted that there is grave doubt whether the cultivations really were those of leprosy bacilli, and all their inoculation experiments gave negative results.

The report as a whole is very valuable as to the details it elicits regarding leprosy in India and as to the careful and exact researches in different directions; but, as is evident from my remarks, I do not think that the Commissioners have succeeded in increasing our knowledge of the real nature of leprosy.

I have still some remarks to make on the measures to be taken to prevent leprosy which the Commissioners recommend. In accordance with their views on contagion they report against compulsory isolation and refer to Norway, where isolation has never been compulsory. This is a very poor argument. It is not the fact of isolation having been compulsory but the extent to which it has taken place and its results which ought to be considered. Now the results of isolation in Norway ought to be well known. We had in 1856 2833 lepers, and we have now about 700. (I have not the exact figures by me.) That this diminution has undoubtedly been brought about by isolation is clearly demonstrated by our statistics, which are the most accurate in existence, for we know every leper by name. If any case escapes the vigilant eyes of our district physicians it is only for a very short time. Had the Commissioners had a little more knowledge of leprosy in Norway they would hardly have used the arguments they employed; nevertheless, they recommend the erection of new asylums and the removal of lepers from the bazaars—in other words, isolation. The position of the Commissioners as regards leprosy is that of those who will not admit the propagation of tuberculosis to be dependent on contagion, or, let me say, on bacillary infection; they will not concede isolation to be a necessity, but, unable to deny its use, they are willing to go halfway. In regard to leprosy, Norway has, as I have repeatedly pointed out, undoubtedly the honour of having first sought out and practised the best methods of checking the spread of the disease without imposing new sufferings on the unhappy lepers, but rather ameliorating their condition; and, in my opinion, other countries where leprosy is endemic have nothing to do but to imitate our methods, with those modifications which different social conditions may require.

As to isolation, I have one word to say in connexion with an assertion of the Commissioners, an assertion also made in Germany in Baumgarten's *Jahresberichte*—viz., that the disappearance of leprosy among the Norwegian immigrants to North America is as much an argument against contagion as it is against heredity. This assertion ignores the fact that I have laid stress upon the circumstance that one of the first things Norwegian peasants learn in America is to keep their persons and their houses clean, and in my opinion cleanliness about the house and person is in most cases sufficient isolation to prevent the spread of leprosy.

CHOLERA AT MECCA AND QUARANTINE IN EGYPT.

BY J. MACKIE, M.B. ABERD., C.M.G.,
BRITISH DELEGATE AT THE QUARANTINE BOARD, ALEXANDRIA.

THE first announcement officially made of what will be the memorable cholera epidemic of this year at Mecca was on June 7th, when the mortality was already 18 per day and deaths from "ordinary" disease amounted to 72. The estimated population of Mecca is about 60,000, while the number of pilgrims massed together there this year from all parts of the Moslem world is variously estimated at from 200,000 to 300,000—the latter figures I should consider considerably over the mark. As there are no means of estimating the number with even an approximation to certainty, it is a matter of guesswork, and it is well known how difficult it is even for experts to estimate crowds of very large numbers. It is certain, however, that the pilgrimage is very exceptionally large. the members of the Mahomedan religion having joined it this year on account of the Day of Sacrifice at Moona falling on a "Friday" (June 24th). The numbers arriving at Jedda by sea might be pretty accurately controlled, but the arrivals by land cannot be estimated. The number of pilgrims shipped at Suez alone

was 25,301—of whom 14,310 were Egyptians. Besides this number 18,931 crossed the Suez Canal coming from the Mediterranean side, giving over 44,000 to be accounted for at the quarantine station on their return. Death from cholera and other pilgrimage diseases will, however, have greatly thinned their ranks, whilst many remain in the Hedjaz to trade, or for other reasons return later or with next year's pilgrims. Up to July 13th over 10,000 deaths from cholera had been officially reported from Mecca and Jedda, while there is no report of deaths from other diseases. That this number, though official, is under the mark may be inferred from a report of Dr. Chaffy, an Egyptian and Moslem, sent by the Quarantine Board as their sanitary correspondent to Mecca. This report, some extracts of which I here translate, reveals a ghastly state of things, almost, one may say, at the door of Europe, taking account of these days of rapid steam communication.

Dr. Chaffy says: "On arrival at Mecca I commenced at once an inspection in the town. The hospital, private houses, and tents were full of people suffering from cholera. I sent you by telegraph the number of deaths declared officially, but on account of the extraordinary mortality it must be admitted that the number could not be precisely known, and it may certainly be considered to have been double of that officially declared, and even more. At Moona it was impossible to bury all the dead who lay here and there in heaps. Round about the Syrian caravan (Mahmal) there was a large number of bodies lying unburied. Returning from Moona to Mecca I found the route strewn with dead. In the town of Mecca itself dead bodies were lying about in a state of putrefaction, and when they were at last transported to the cemetery they were thrown down there and left lying for days unburied from want of a sufficient number of gravediggers. The mortality from ordinary diseases at Mecca was caused by pernicious fevers (?)[1] and diarrhœa."

One has only to read this and Burton's description of Mecca and pilgrim life there on ordinary occasions to form some iden, but a very imperfect one, of the state of things after the sacrifices at Moona under the scorching sun in midsummer. After the sermon of many hours' duration on Mount Arafat a stampede, graphically described by Burton, takes place down to the Moona valley where the sacrifice of sheep takes place, the valley being converted for the time into a charnel-house. No one who knows these rites was astonished when the mortality after "Moona" was "officially" reported to have mounted up from 220 and 455 to 1000 a day. I have seen no accounnt of the mortality on the road on the return journey of forty miles from Mecca to Jedda, but one may infer that a good many must have died on the way, as cholera was declared among return pilgrims at Jedda on June 29th, and only three days previously the pilgrims were dying at the rate of over 1000 a day in Mecca.

Jebb-el-Torr, the Egyptian quarantine station for return pilgrims.—This is the fourth time within a few years that the Quarantine Board has had to deal with severe epidemics of cholera among return pilgrims at its quarantine station at Torr—viz, in 1881, 1890, 1891, and 1893. Up to this date news has been received by the Board of the arrival of 7801 pilgrims at Torr. Of these 1256 only are Egyptians, the rest being from countries on the Mediterranean side—Turks, Moors, Bosnians, and others. These have been conveyed from Jedda by ten steamers; 24 deaths from cholera are stated to have happened on board during the voyage, and others from ordinary diseases. Since the arrival of the pilgrims at Torr there have been about 100 cases of cholera, with about 60 deaths, while the station hospital for ordinary diseases is stated by the director to be already encumbered and the medical men to be overworked. At the date of the last report there were 250 sick in hospital of ordinary diseases; of the choleraic attacks only three or four were of Egyptian pilgrims. It is to be noted that, according to information received, the latter suffered very little at Mecca. In the previous epidemics also of 1890 and 1891 they suffered comparatively little, and on the present occasion their general health is reported by the director of the station to be good.

The Quarantine Board, with experience gained from previous epidemics, and knowing the work which would be thrown upon it should an epidemic break out amongst the immense number of pilgrims this year, took steps in good time to prepare the quarantine station, and are working hard, aided by the Egyptian Government, in stamping out the epidemic at Torr and in preventing its introduction into Egypt and Europe. As it has succeeded on the previous occasions I have mentioned, there is good reason to hope that it will succeed again now, though the circumstances are much more serious.

The station of Torr is practically a desert, water being supplied from wells. There are no running streams to be polluted, and the pilgrims are lodged in tents. Each ship as it arrives is assigned a section apart for its pilgrims; the sections are at a considerable distance from each other, and guards are placed to prevent intercommunication. Healthy and infected sections are kept well apart. The period of quarantine is fifteen days, dating from the time of arrival if the pilgrims are healthy, or from the last case of cholera in the section breaking out after arrival. During the quarantine the vessel bringing the pilgrims is cleansed and disinfected, and the personal effects of the pilgrims are subjected to steam under pressure, for which the Quarantine Board possesses disinfecting machines established at the station. If considered necessary, the camping-ground of an infected section is changed. The number of persons in a section varies from perhaps 300 to 900, according to the number brought by any one steamer. After having undergone the prescribed period of quarantine, if there remains ground for suspicion the foreign pilgrims are re-embarked on the steamer which brought them and pass the Suez Canal in strict quarantine and well guarded in order to prevent communication with Egypt. In the case of Egyptian pilgrims, after having undergone the prescribed period of quarantine at Torr and being declared healthy, they undergo a further three days' observation at a fresh camping ground at Rass Mallap, a healthy spot at a considerable distance from Torr, and are thence brought to Suez, generally in clean vessels sent by the Egyptian Government, and allowed to land in free pratique. Vessels leaving Jedda with pilgrims receive their papers for Torr and go straight to the quarantine station on the peninsula. The station is guarded by soldiers sent by the Egyptian Government, and I believe there are about a thousand soldiers at present on duty. All likely places where sambooks or other small craft might land pilgrims *en contravention* are strictly watched, and every precaution is taken by camel patrols and coastguard cruisers to prevent return pilgrims from landing in Egypt except by the stations established by the Quarantine Board. Personal effects too worthless and dirty for disinfection are ordered to be burnt, the Egyptian Government at its own expense having sent a supply of clothing to be used to replace them. Communication is kept up with Suez by small steamers lent by the Egyptian Government which take provisions if required, and mails, there being unfortunately no telegraph wire between Suez and Torr. Specimens of the water from the wells were examined some time ago at the Khedivial laboratory in Cairo and pronounced to be good. No complaints have reached the Board as yet as to the quantity or quality of the water or food. There are two great dangers in the present instance. One is the risk of the water giving out, which it has not done on previous occasions. The other is the risk that the station should become overcrowded by prolonged quarantine when many sections remain long infected, and so impossible to send off, while fresh batches continue to arrive. The work of disinfection has been much and unfavourably criticised, and anyone who has had personal experience of crowds of pilgrims, of the dirty state of their persons and clothes, and of the bundles of filthy impedimenta which they carry with them can easily understand that the disinfection cannot be perfect; but if perfection cannot be achieved—and in what is it achieved?—that is no reason why something should not be done.

Origin of the epidemic.—The usual vexed question will no doubt soon arise as to how the disease was this time imported into Mecca. According to information received in Egypt the first cases of cholera were observed amongst the Yemen pilgrims immediately on their arrival at Mecca. It is known that cholera must have been prevailing in the Yemen as lately as the end of last year. A Turkish transport with troops from Yemen left Hodeida on Sept. 19th last and made for the Turkish quarantine station at Camaran in the Red Sea. During their stay at Camaran there occurred 47 cases of cholera, 46 cases of chronic dysentery, 38 cases of intestinal catarrh, and 10 cases of "pernicious fever." Probably some of the cases of chronic dysentery and intestinal catarrh were choleraic. During the present season one vessel, the *Knight of St. John*, arrived at Camaran on May 5th from Bombay with

[1] Pernicious fever is a vague term used in these countries and may mean many things. I have known it applied to septicæmia, pyæmia, peritonitis, &c.—generally where there are cold shivers, perspiration, and collapse.

over 1000 pilgrims of different nationalities, among whom were a few cases of cholera. These pilgrims underwent their quarantine at Camaran, and no further cases, as far as I know, have been reported among them. Discussions on the subject in the past have usually been very unsatisfactory and the conclusions very indefinite. The serious fact remains that cholera epidemics among the pilgrims annually collected at Mecca are of very frequent occurrence and are a standing menace to Egypt and Europe. Four times within the last twelve years the disease might have been introduced by the pilgrims into Egypt or Europe, or both, and the experience of France and Spain has shown how easily it may become endemic. The endeavours of the Quarantine Board have fortunately been successful in stamping out the disease before the pilgrims reached Egypt. The doings of the Board have been very severely criticised in England—often rightly, but oftener undeservedly and without *connaissance de cause*. Its actions in the future will be very much modified by the decisions of the Conference of Venice—a conference entirely due to the action of some of the members of the Board who took the initiative and drew up a programme for their government with a view to settle on a more rational basis and smooth over the ever-irritating question of Suez Canal quarantine.

Alexandria.

PITYRIASIS RUBRA IN A CASE OF DIABETES.

BY HERBERT H. HORDEN, M.D. LOND.

PITYRIASIS RUBRA, also sometimes called exfoliative dermatitis, is a rare disease and, unlike most skin affections, involves the whole surface of the body. The occurrence of this disease in a diabetic subject, so far as I can ascertain, has not been previously recorded, and therefore I have thought it sufficiently interesting to publish the case in some detail. That eczema is a complication of diabetes is well known, and since some authorities are inclined to regard pityriasis rubra as a form of eczema the association of the two diseases in the present case is of interest.

The patient, a woman aged seventy, consulted me on May 27th, 1892, on account of great irritation and burning of the lower part of the body. She stated that she had been troubled with it for two or three weeks, but, hoping that it would pass off, she had not taken any pains in treating it, having only applied some ointment, which had given her no relief. On inquiring into her past history I was told by her that she had always led a very active life and had been very healthy and temperate. There was no history of gout or rheumatism in her family. She had noticed during the last few months that she had been growing languid and exhausted, particularly after any exertion, and that though her appetite was very good and at times even ravenous she was losing flesh. Thirst was not complained of, but on closer inquiry it was discovered that she consumed a considerable quantity of water during the night. She complained of her rest being disturbed at night by her having to get up so many times to micturate. She also complained of constipation. On examination the patient appeared to be healthy, though the skin of the face was somewhat flabby and loose, giving one the idea that there had been loss of flesh. It was, however, quite free from any eruption. The eyes were carefully examined, but, with the exception of a well-marked arcus senilis, there was nothing abnormal to be detected in the lenses or discs. The skin on the chest and extremities was distinctly dry and somewhat harsh, but with this exception it was normal; on the abdomen, however, extending from midway between the umbilicus and pubic symphysis, there was a well-defined area of a deep-red colour covered with an innumerable number of very thin papery scales overlapping each other, very easily detached, and extending to the vulva. The area was very dry to the touch, and there were no crusts to be seen. She complained of great heat and burning over this part, as well as of much irritation. Physical examination of the chest and abdomen revealed nothing abnormal. She was told to measure the quantity of urine passed during the next twenty-four hours and to send a specimen of it to be tested. The amount was determined to be nine pints. It was of a light amber colour and quite clear, and there were no deposits. The specific gravity was 1034. There was no albumen, but Fehling's solution showed the presence of sugar, which was subsequently estimated to be eight grains to the ounce. The patient was not seen for a fortnight, when I was summoned to her house. The rash had then spread over the whole of the abdomen and the lower part of the chest, as well as over the whole of the back, buttocks, and upper parts of the thighs. She said that it was spreading daily and always did so from the edges. Around the edges were seen numerous well-defined red patches, which were slightly raised above the general surface of the skin. Those nearest to the edges were covered with scales and appeared to run into each other, while those more distant had but few scales. In this manner the rash appeared to spread all over the body, including the face and scalp, and also the soles of the feet and palms of the hands. The ears and eyelids were likewise affected. The scales on the face were much smaller than those of the body. The rash took six weeks to envelop the whole body. When the scalp was attacked the hair rapidly fell out, so that the patient became quite bald. When the scales were removed from any part the subjacent skin was intensely red and very tender to the touch. They had everywhere the same character, being, namely, very thin, papery, and imbricated, and not glued together. They appeared to form again almost as soon as removed. The nails of the hands and feet were not affected. The quantity of scales which were shed daily was estimated to be about a pint and a half. The patient complained of great tingling, burning, and heat all over the body, and also of her eyes smarting so much that she was obliged to wear a shade to protect them from the light, which seemed to irritate them.

The treatment of the case consisted in keeping the patient confined to one room raised to a moderate temperature, and, during the acute stage, in bed. All draughts were excluded as far as possible, as it was found that she felt the cold keenly. She was put on a strictly diabetic diet, and no wines or malt liquors were permitted, but claret was allowed. Pills containing codeia were ordered three times a day. The local treatment consisted of a calamine liniment composed of calamine, oxide of zinc, and olive oil. This was constantly applied all over the body by soaking lint in the liniment and then winding it round the patient's body and limbs, while it was also dabbed over her face. Each morning the scales were brushed off with a soft brush. The local treatment was faithfully carried out by a daughter, who acted as nurse to the case, and who also looked after the diet. After the rash had become general arsenic was given internally and its effect watched for fourteen days, but as it certainly did no good it was discontinued and the dose of codeia increased. After four months' treatment, by which time the sugar had quite disappeared, the skin affection began to improve, particularly on the legs, but the burning and tingling of the skin increased. For this a mixture containing gelsemium and quinine was prescribed, which gave marked relief. The parts to become well last were the front of the chest and under the breasts. The hair, which had completely fallen off the scalp, has now grown thickly and abundantly. The skin at the present time is quite free from any eruption, but feels finer and thinner than before the illness, and the patient is very susceptible to cold and perspires freely. The whole duration of the affection was about nine months.

Water-lane, Brixton.

HIGH TENSION, HEADACHE, AND ALBUMINURIA.

BY H. WILLOUGHBY GARDNER, M.D., L.R.C.P. LOND., M.R.C.S. ENG.

A MAN aged thirty-five came to me on April 6th, 1891, complaining of severe recurrent headaches from which he had suffered since boyhood. He stated that his father had suffered from similar headaches all his life, and that at the age of fifty-eight he began to suffer from softening of the brain, became more and more irritable and strange, and eventually died from that disease at the age of sixty-five. He said he was very like his father in temperament and physique, and his fear was that he himself would eventually suffer from similar brain disease, and that too at an earlier age. Twelve years ago he had suffered from "brain fever," which lasted for six weeks, and during which he had been delirious and unconscious. He recovered completely. He had had no other illness. There was no history of syphilis. His mother,

brother, and three sisters were alive and well. There was no other family history of headache or of gout. The headache occurred every few weeks. He could suggest no cause for it. It usually lasted all one day, but occasionally for as long as three days. Of late the attacks had been more severe, but not more frequent. The pain was situated in the occiput and posterior half of the vertex. Rarely it extended along the right temporal region and occasionally to the forehead, but then it seemed to be of a different character. It usually began gradually and steadily increased until the evening, when it would be at the worst. It would generally go away with sleep, which it did not prevent. It was described as being intense, the brain seeming to be throbbing against the skull. At times he would turn giddy and his head would seem to swim. It was never accompanied by either nausea or vomiting. He knew of no exciting cause, and had no worry or anxiety and very little exposure. When first seen he was free from headache, and it was nearly a week since the last attack. He was a thin, pale, weakly looking man, with a high, dome-shaped, narrow head. The veins of his forehead, especially the median, were full. The temporal arteries were abnormally visible and very tortuous. His tongue was indented; his pulse was 72 and not quite regular; the radial artery was full between the beats and could be rolled beneath the finger, but could be easily compressed. No definite thickening of the walls of the vessel could be made out. The heart's apex was in the normal position; the first sound was good; the aortic second sound was accentuated and somewhat ringing in character. The urine was of sp. gr. 1015, faintly acid, and contained a distinct trace of albumen. He passed from three to four pints a day and did not have to get up during the night. He complained of slight dimness of vision at times and wore spectacles, but when tested he could see ⅗ and read Jaeger 1. By the ophthalmoscope nothing abnormal was to be seen, and in the eyes, at any rate, there was no thickening of the arterial walls. On April 23rd the urine was of sp. gr. 1015, acid, and contained a distinct trace of albumen. On the 26th he was suffering from severe headache. His bowels had been regular all the week previously, but had only acted slightly on the 25th and not at all that morning. His pulse was 78 and somewhat irregular in rate. The vessel was small. The beat was weak and could be easily stopped, but the artery was full between the beats and stood out like a cord. The aortic second sound was greatly accentuated and was of a markedly ringing character. The urine was of sp. gr. 1015, acid, and contained a thick cloud of albumen. Its quantity was also said to be greater, but no exact measurements were taken. There were no casts, nor were any found at any time, although carefully searched for. Fifteen grains of antipyrin had no appreciable effect upon the headache. Next morning (the 27th) the headache was gone; the pulse was 102 and was no longer full between the beats, and the aortic second sound had completely lost its ringing character. The urine was of sp. gr. 1014, acid, and contained only the faintest trace of albumen. The bowels had been open twice pretty freely on the evening of the previous day. It being evident that in this case the headache and the albuminuria were intimately connected with high arterial tension, treatment was directed to obviate that condition on the lines laid down by Sir W. H. Broadbent; constipation was especially guarded against, and beer was forbidden. The result has been most satisfactory. Two years and a half have now elapsed. Mr. Charles Flemming of Freshford, his medical attendant, has kindly investigated the case for me, and reports that the patient has been practically free from headache ever since, only having one occasionally, when he has allowed himself to become constipated, or has taken beer again, and then they are never so severe as they formerly were. The patient volunteered the statement that his sight was much better. The pulse was 72 and regular; it still shows considerable tension, but the apex beat is still normal in position, and there is no increased cardiac impulse. The urine is of sp. gr. 1014, and contains no albumen, no casts, and 1·1 per cent. of urea; from two to three pints are passed daily.

Remarks.—It is evident that in this case high tension, albuminuria, and headache were intimately associated. Whether the headache was due to the high tension directly or whether both were due to some poison in the blood, the result either of deficient metabolism or deficient elimination, is uncertain. The concomitant marked increase in albumen might suggest that the headaches were uræmic; but the increase in the amount of urine would be against that supposition. It seems, perhaps, to be most probable that they were directly due to the high tension. The administration of amyl nitrite might have thrown light on the question, but unfortunately it was not tried. The same problem exists with regard to the relationship of the albuminuria and the high tension. In either case the practical point was to resort to treatment calculated to lessen the excessive pulse tension by preventing the accumulation in the blood of those waste products which might cause it. What these waste products are is another problem. It is worthy of note in this connexion that beer always did, and still does, have a tendency to bring on an attack. So also does constipation, as in the particular attack investigated. It is to be noted that this one came to a close with two rather loose actions of the bowel in the evening, which, it may be inferred, helped to eliminate the poison from the blood. Would the condition, if it had been allowed to go on, have resulted in chronic interstitial nephritis? Most probably. Probably some actual kidney change had already occurred, for the urine was, and still is, of rather low specific gravity, and the urea is still deficient in quantity, and at that time albumen was constantly present. Casts, however, though carefully searched for, were never found, and there were no ophthalmoscopic changes. But, granting that chronic nephritis would have supervened, is this condition a common precursor of that insidious disease, and could the onset of the latter be often suspected and prevented by treatment tending to obviate excessive high tension? Then there is the question of heredity. High tension is known to be markedly hereditary. In this case it seems to be quite clear that the father suffered from headaches of a similar nature and that he was eventually overtaken by some results of vascular degeneration in the brain, causing death. The patient was probably quite right in fearing some similar ending for himself. Curiously enough, the mother has this year been suffering from epistaxis and headache herself, which, Mr. Flemming tells me, he found to be associated with excessive high tension and with urine of sp. gr. of 1011, containing a very faint trace of albumen. The question of heredity would seem to be quite clear were it not that high tension and troubles resulting therefrom are very common in the neighbourhood of the patient's residence; and it is quite curious how many cases of old hemiplegia, apparently from cerebral hæmorrhage, one meets with there. What the cause of it is I do not in the least know; but it may be that, whatever it is, the patient, his father, and his mother were especially exposed to its action. The fact is to be noticed that, though he no longer suffers from the effects of excessive tension, he still remains a high-tension subject. However this may be, it is, I think, highly satisfactory to find that the headache, the tendency to arterial degeneration, leading inevitably to the shortening of life, the albuminuria, and the probable onset of chronic nephritis could be remedied by the recognition and treatment of the excessive pulse-tension, whatever its cause and its precise connexion with the other symptoms may have been.

Swan Hill, Shrewsbury.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

THE TREATMENT OF HABITUAL ABORTION BY CHLORATE OF POTASSIUM.

BY EDWARD F. PRATT, L.R.C.P. LOND.

As far as I am aware there have as yet been no published cases where the treatment of habitual abortion by chlorate of potassium has been successful or even mentioned. I have, therefore, recorded the histories of the two following cases in the hope that they may be useful to brother practitioners, who, I trust, will try the remedy in their own practice should opportunity offer. Both cases were remarkable in that, although there had been nine premature confinements in the one instance and three in the other, yet after persevering with the chlorate of potassium the delivery of a living child at full term was the result in each case. In my own case there is another interesting point—viz., that although I was continually

trying to impress on the patient's mind my absolute certainty of success, yet until she had well passed the eighth month of pregnancy she had no faith in the treatment whatever, for it was her firm conviction that, after miscarrying three times, she would never go the full nine months. As will be seen the result was agreeably surprising to her. I may mention that this treatment was suggested to me by Dr. Sutherland of South Shields, whose case is narrated first:—

CASE 1.—A married woman consulted Dr. Sutherland at the end of December, 1892, with regard to her condition, she being then about two months pregnant. The history was that eleven years previously she had her last living child, but since his birth she had been prematurely delivered—in the majority of cases at the sixth month—of nine stillborn children. She was at once ordered ten grains of chlorate of potassium three times a day, and she continued to take it, with an interval of a fortnight in April, until the beginning of August of this year, when she, being then at full term, was delivered of a living child. There was a distinct history of syphilis.

CASE 2.—A married woman came to see me on April 2nd of this year, telling me that she was about four months pregnant and that she had had three premature confinements, but never one at full term. She was, however, most anxious to have a living child and was willing to do anything or take anything if only her wish could be gratified. I ascertained that during her first pregnancy she had had a fall at about the eighth month, with the result that labour supervened and a child was born, which lived for two days. She again became pregnant, and at the eighth month, although she could find no cause for it, was again delivered of a child, which was in this instance stillborn. She became pregnant a third time and went seven months only, the child being in this case, too, stillborn. After obtaining from her the above facts, and bearing in mind Dr. Sutherland's case, I advised her to commence at once with the medicine I should give her and to continue it until labour set in. She expressed herself as being perfectly willing to do so, so I commenced with ten grains of chlorate of potassium in water three times a day, telling her at the same time to let me have a specimen of her urine each time the bottle was renewed. On May 11th I found a distinct haze of albumen present in the urine, so I stopped the chlorate of potassium and ordered her ten minims of tincture of perchloride of iron in water three times a day for about ten days. At the end of that time the albumen had completely disappeared, so the chlorate of potassium was recommenced. In June I again found it necessary, for a similar reason, to give the tincture of iron the preference for a fortnight. She then resumed her original medicine and took it constantly till Aug. 11th, when labour commenced and she was safely delivered of a strong and healthy living female child at full term. She made an excellent recovery and the infant is all that she could wish. There was no history of syphilis in this case.

Heaton-road, Newcastle-on-Tyne.

SIMPLE ENTERITIS OR ENGLISH CHOLERA (?).

BY CHARLES ROLFE, M.B., B.C. CANTAB.

ON Thursday morning, Sept. 7th, I was called to see a healthy married woman aged about fifty years. I found her to be suffering from a severe attack of colic and diarrhœa and confined to bed. She had no sickness and was passing ordinary watery motions. I prescribed a mixture of compound tincture of camphor, aromatic sulphuric acid, and spirit of chloroform. On my next visit, which was on Saturday morning, I found her rather weak, but able to be up and about, the symptoms having ceased. She went to bed that night in good health, but at 1 A.M. was suddenly seized with violent sickness, diarrhœa, and cramps in the calves, and I was sent for at 7 A.M. I then found her condition to be as follows: The temperature was below 95° F., the body and limbs feeling cold to the touch. The pulse at the wrist was imperceptible. The eyes were sunken as in severe cases of peritonitis. The hands, feet, and face were of a bluish-white colour and very cold. The tongue was quite clean, but nearly white. The patient was conscious. Diarrhœa was constant, the motions containing no trace of bile or solid matter and merely wetting, but not staining, the sheets. There were no colicky pains. She suffered from constant vomiting, and there were severe and constant cramps in the calves and right forearm. Hot bricks were placed in bed around her. A few teaspoonfuls of weak brandy-and-water with a trace of hydrocyanic acid were administered every two or three minutes, as well as a teaspoonful of meat juice every ten minutes irrespectively of the vomiting. Brandy and meat juice were also given hypodermically. The knees, ankles, and toes were kept forcibly extended to relieve the cramps, which were almost constant and very severe. From the time I saw her the patient began to improve steadily as regarded all her symptoms. The body heat began to return, and at noon the pulse could be counted. The vomiting and diarrhœa became steadily less severe, and by 4 P.M. the patient could keep food in her stomach for an hour at a time. The cramps became less frequent, but caused considerable trouble till about 8 P.M., when they began rapidly to subside, and I was able to pronounce the patient out of immediate danger. From that time she made a steady recovery.

Remarks.—I should be glad of an opinion on the above case. I believe it to have been an example of simple enteritis or English cholera, which cases are not uncommon at that time of the year and when fatal are, I believe, often certified as Asiatic cholera. My reasons for the above opinion are (1) the rapid and complete recovery of the patient; (2) the intimate connexion of the attack with an attack of undoubted simple colic and diarrhœa; and (3) the severity of the vomiting. On the other hand, the character of the motions, with the absence of colic or abdominal pain, and the very marked severity of the cramps in the calves caused me to be very suspicious of Asiatic cholera, and precautions were taken accordingly.

Norton Woodseats, Sheffield.

NOTES OF THE TWO SUSPICIOUS CASES OF CHOLERA AT THE COTON-HILL ASYLUM.

BY HAROLD S. BEADLES, M.R.C.S., L.R.C.P.

IN THE LANCET of Oct. 7th it is stated that two suspicious cases of Asiatic cholera had occurred at the Coton-Hill Asylum, Stafford. As I was acting for the time being as medical officer at that institution, and personally attended the cases and made the post-mortem examinations, the following notes may not be without interest. For permission to publish them I have to thank Mr. Hewson, the medical superintendent of the asylum.

CASE 1.—The first case is that of a man aged fifty-two, who had been thirty years in the asylum and was quite demented. At 5 30 A.M. on Sept. 28th the patient was seized with vomiting and continuous retching. Two hours later some diarrhœa occurred, the motions being soft but of a natural colour. He became very cold and passed into a condition of collapse, the pulse being almost imperceptible. Hot fomentations were applied to the abdomen and hot bottles to the feet. Bismuth and opium were given internally and brandy at frequent intervals. At 11 A.M. vomiting again occurred, when he brought up undigested food with fluid of a brown colour. The patient remained in a collapsed condition during the whole of the day, and the radial pulse could not be felt. No further diarrhœa occurred, but at one time during the course of the day a colourless watery discharge was found running from the rectum. During the whole time he made no attempt to speak, but in the course of the evening his legs were drawn up on several occasions and he clenched his teeth. At no time was there any indication of rallying, and he died at 10 30 P.M., seventeen hours from the onset of the attack. At the necropsy, eighteen hours after death, old peritoneal adhesions were found. The intestines, both large and small, contained a thick, quite opaque, tenacious fluid, and the lining of the bowel was congested with localised areas of greater intensity. Towards the cardiac end of the stomach there was a similar area of large size. No ulceration existed. There was nothing further to note beyond the fact that the heart was exceedingly fatty but without valvular disease, that the lungs were œdematous, and that the brain with its membranes was congested.

CASE 2.—Two days later the second patient was attacked. This was a man aged fifty-six, who had been three years in

the asylum, but whose insanity had existed from an early age. He was more or less incoherent. At 5 30 P.M. he was seized with sudden collapse; his bowels had been open twice during the preceding half-hour, and he now vomited. The vomit consisted of undigested food. Although at this time his radial pulse could be felt it was not for long. In reply to questions he stated that he was entirely free from pain, and although he complained of cold he would not keep on his bed-clothes and was continually removing the fomentations. From this time up to shortly before death he passed under him at intervals fluid motions of a yellow colour, which, however, lost their colour towards the end. He died at 1.30 A.M., the illness being of eight hours' duration. The patient, as in the other case, passed no urine during that time. At the post-mortem examination fourteen hours after death the stomach and the whole of the intestines were found to be congested almost uniformly throughout, although in places the congestion was more intense. There was no ulceration. The stomach was dilated and contained undigested food and brown fluid, and the contents of the bowel were similar to those in the first case. About a foot of the lower part of the ileum was removed with its contents and sent to Dr. Klein for bacteriological examination. There was no other point of interest to note.

Remarks.—In the course of two days Dr. Klein reported that he had found the comma bacillus in the contents of the intestine that had been forwarded to him, and soon afterwards he further notified that he had succeeded in cultivating the organism, and therefore that he considered the case as one of undoubted Asiatic cholera. Upon receipt of this news, in addition to the precautions already taken to prevent the occurrence of any further cases arising, every endeavour was made to trace the origin of the disease and the possible spread of the contagion to the asylum. It is not for me to doubt the opinion expressed by so experienced a bacteriologist, nor can I very well suggest the possibility of some source of error; at the same time I would draw attention to a few points in connexion with the cases that make it difficult to believe that they were of the nature of true cholera, although in the present state of our knowledge we have no alternative, if the so-called cholera bacilli were present. Firstly, with regard to the possibility of the infection with true cholera, both these patients had been for a long time resident in the asylum and had not themselves been out of the building beyond the boundary of the garden for a considerable period, and although suspected cases of cholera had occurred in the northern part of Staffordshire, they were at a long distance from the asylum and no communication had passed between the two districts. All attempts to trace any contact, whether by persons or by food used by the inmates, have failed utterly. The asylum has a system of farm drainage of its own, having no connexion with that of the town, and when recently tested no leakage could be found. The water-supply has since been examined and found good. Vegetables and milk are obtained from the farm. Although the patients were at once isolated and the room was immediately fumigated, is it likely that cholera, having once obtained an entrance into a building of this kind, would have been limited to these two cases, especially had it been conveyed by an article of food? It may be noted that both the patients had been eating a number of pears prior to the onset of the fatal attack and that they were not likely to reject tainted portions of the fruit; and it may be pointed out that both were old and had weak hearts. Several cases of mild diarrhœa had occurred about this time. Those who had an opportunity of seeing the patients while they were alive and who also were present at the post-mortem examinations held grave doubts as to the choleraic nature of the illness. With the exception of the great collapse most of the prominent symptoms of the disease were conspicuous by their absence. Of course the entire absence of pains and cramps in the one case, and the partial absence in the other, may doubtless be accounted for by the fact that the patients were insane. The same remark will not hold good with the other symptoms of diarrhœa and vomiting, neither of which were excessive. We are all aware of the large number of cases of acute diarrhœa with vomiting that have occurred during the past summer, not a few of which have been rapidly fatal. The changes seen in the gastro-intestinal tract at the necropsies were those of acute gastro-enteritis of a severe nature, such as might result from irritant poisoning by some unwholesome food, and the enfeebled heart might make it the more difficult to recover from an attack of that nature. Apart from the fact that Dr. Klein has found and cultivated the comma bacillus in the second case, there is nothing else to distinguish the two cases from what is known as English cholera or cholera nostras.

A ZWANK'S PESSARY IMPACTED FOR NINE YEARS AND A HALF, CAUSING RECTO-VAGINAL FISTULA.

BY ERNEST A. T. STEELE, L.R.C.P. LOND., M.R.C.S. ENG.

I SEND the following case as an illustration of the danger of pessaries being worn continuously without the patient being examined:—

A woman aged forty-five applied at the Cottage Hospital, Plaistow, to have an "instrument" removed from the vagina. She said that ten years previously she had the instrument supplied by the Truss Society for a "falling of the womb." She never went to the Truss Society again, but six months afterwards a friend removed the instrument and replaced it, and it had never been touched since. For five years she has had pain and discharge, and during the last twelve months fæces have occasionally passed per vaginam. On examination under an anæsthetic the instrument was found to be a Zwank's metal pessary, which was firmly impacted in the vagina and the handles of which had cut their way into the rectum about one inch above the anus. The pessary was removed with some difficulty and the vagina was irrigated, when it was found that the fistula was about an inch in length. The edges of the fistula, which were much indurated, were pared and brought together with silk sutures. Three weeks afterwards the fistula had healed except at its upper part.

Balaam-street, Plaistow, E.

A CASE OF TRANSPOSED VISCERA.

BY FREDERIC C. COLEY, M.D. DURH. &c.,
PHYSICIAN TO THE NORTHERN COUNTIES HOSPITAL FOR DISEASES OF THE CHEST AND TO THE NEWCASTLE HOSPITAL FOR SICK CHILDREN.

A CASE presented itself lately at the out-patient department of the Newcastle Hospital for Diseases of the Chest which appears worthy to be placed on record.

A boy fifteen years of age had frequently suffered from bronchitis, but when free from an attack of that kind had not complained of any shortness of breath on exertion. On examination the heart's impulse was found to be an inch below, and half an inch internal to, the right nipple. The area of heart dulness was normal in extent, but transferred to the right side of the sternum. The liver dulness was absent from its usual position, but there was a corresponding dulness on the left side. The patient was unaware of the displacement of the heart until I pointed it out to him. He had suffered from nystagmus from infancy, and nyctalopia had long been complained of—i.e., his sight was perfect in broad daylight, but he was almost blind in twilight or ordinary artificial light. He was rather small for his age, and there was no sign of puberty. He seemed fairly intelligent, but was said to be somewhat backward at school, though not more than was accounted for by his frequent absences on account of attacks of bronchitis.

Eldon-square, Newcastle-on-Tyne.

BRISTOL MEDICAL SCHOOL: DISTRIBUTION OF PRIZES.—On the 20th inst. Sir Edward Fry presided at the meeting held for the distribution of the prizes gained by the students during the last session. Dr. Markham Skerritt, Dean of the Faculty, gave on the occasion a very favourable report of the progress of the school during the past year. One event worthy of commemoration was the opening of the long-needed new buildings, in connexion with which they were able to centralise important medical libraries existing in the neighbourhood. The incorporation of the Bristol Medical School with the Bristol University College was another noteworthy event. In distributing the prizes Sir Edward Fry remarked on the evils attending competitive examinations and the difficulties that arose from the vast extent in range which human science had attained. A rigid mental method, he said, was the only way of meeting the difficulty. Accurate and logical training was necessary in order to deal with any matter which came before the inquirer.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

UNIVERSITY COLLEGE HOSPITAL.

DISLOCATION FORWARDS OF THE HEAD OF THE RADIUS; REDUCTION SEVEN WEEKS AFTER THE ACCIDENT, RESULTING IN A FREELY MOVABLE JOINT.

(Under the care of Mr. CHRISTOPHER HEATH.)

WE give the notes of a case of displacement forward of the head of the radius, which was apparently overlooked for seven weeks, partly to draw attention to this injury and partly to show that such a dislocation may be reduced and the limb retain its proper position, though it has been displaced for some time. The following extract from Hamilton[1] will show the difficulty of treating this dislocation: "Denucé says, 'The reduction is often impossible; more frequently still, difficult to maintain.' In proof of which he refers to Danzan and Robert. In the case of recent dislocation related by Robert it was found impossible to maintain a reduction which he thought he had several times accomplished, and he believed that the difficulty consisted in a portion of the torn annular ligament having become entangled between the head of the radius and the condyle of the humerus. Sir Astley Cooper was unable to accomplish the reduction in two recent cases, and of the six cases which came under his immediate observation only two were even reduced. Malgaigne says that in a collection of twenty-five cases which he made the accident was unrecognised or neglected in six, and ineffectual efforts at reduction had been made in eleven, so that only eight of the whole number were reduced. I have myself met with six of these simple dislocations which were not reduced." Three of these had not been recognised, one had been unskillfully and unsuccessfully treated, one had become redislocated after reduction, and Hamilton was unable to reduce the other himself on the seventh day. For the notes of this case we are indebted to Mr. G. B. Mower White, surgical registrar.

The patient, a boy eight years of age, fell from a swing on April 15th of this year, and attempted to save himself by extending his left upper limb. The left hand, which first met the ground, received the whole weight of the body, while at the same time the elbow-joint was extended. That this was so was learnt by the patient demonstrating the manner in which he fell. Immediately after the accident there was inability to bend the elbow-joint, and a little later much swelling of the joint occurred. On May 26th—a period of seven weeks, all but one day, after the accident—the patient was brought to University College Hospital. There was then a complete dislocation forwards of the head of the left radius, with inability to flex the elbow. There was scarcely any swelling of the tissues round the joint, and no other injury (dislocation or fracture) could be detected. Under an anæsthetic (chloroform) Mr. Heath effected a reduction of the dislocation by traction on the forearm with one hand and manipulation of the head of the radius into its proper position with the other. After reduction the forearm was forcibly flexed to an acute angle with the arm and firmly bandaged across the front of the chest, the tips of the fingers touching the right shoulder. The limb remained in this position until June 2nd, when the bandages were removed; the elbow-joint was extended two or three times, and the limb was again fixed to the trunk with the forearm, now forming a right angle with the arm. On June 8th, thirteen days after the reduction, the bandages were removed. The head of the radius was in its proper position and the range of movement in the joint was very good indeed. The limb was placed in a sling. The patient was seen again on June 26th, and the condition of the limb was then as follows: there was scarcely any general swelling of the left elbow joint, but there was evident thickening round the head of the radius. The movements of the joint were exceedingly good; thus complete extension could be made, though over-extension was impossible. Flexion was arrested when the forearm made an angle of about 40° with the arm. Pronation and supination of the forearm were perfect. The distance from the acromial angle to the external humeral condyle was the same on the two sides—viz., 8¾ in. The greatest length of the left ulna was 7¼ in., that of the right 7⅝ in., and the greatest length of the left radius was 6¾ in. and that of the right 7 in. The patient was seen for the last time on July 17th; he had been using his arm freely since June 26th; there had been no recurrence of the dislocation, and the conditions of the joint were the same as on the previous date.

[1] Fractures and Dislocations, p. 618.

DEVON AND EXETER HOSPITAL.

MIDDLE EAR DISEASE; CEREBRAL ABSCESS; OPERATION; RECOVERY.

(Under the care of Mr. C. E. W. BELL.)

WE have published in the last two issues of THE LANCET examples of septic thrombosis of the lateral sinus in which life was saved by operation. We now bring forward the account of another complication of otitis media, also successfully treated, one which is not less formidable than that mentioned, which requires equal skill for the diagnosis and also for the treatment—viz., cerebral abscess. The history in this case was of chronic purulent discharge from the middle ear (without mastoid suppuration), severe headache, convulsive attacks, double optic neuritis, and then the onset of unconsciousness, with a slow pulse, but there is no history of vomiting, of rigors, or of any change in the temperature, whilst there appear to have been no external signs of the large abscess situated in the temporo-sphenoidal lobe. Dr. Körner[1] has come to the following, amongst other conclusions, from a study of 100 cases of cerebral abscess. 1. Regarding diagnosis between abscess in the temporo-sphenoidal lobe or in the cerebellum three points must be borne in mind: (*a*) cerebral abscesse are three times as frequent as cerebellar abscesses in children under ten years old; (*b*) the seat of the primary bone lesion; (*c*) labyrinthine disease does not certainly indicate cerebellar abscess; (*d*) a painful area may be located by percussion. 2. Pain, dizziness, and optic neuritis are uncertain signs. 3. Disturbances of speech occur in cerebral affections only, but are seldom met with on account of the preponderance of right-sided abscesses. For the notes of this case we are indebted to Mr. H. Andrew, house surgeon.

A single woman aged twenty-one was admitted to hospital on July 12th of this year in a comatose condition; the pupils were dilated (atropine had been used two days previously for examination of the eyes) and equal, the breathing was stertorous, and the pulse was 56 and full. There was no œdema of the scalp. When five years old she had scarlet fever, followed by a discharge from the left ear, but had otherwise always been strong, though somewhat neurotic. During the last three months she had looked paler than usual and on June 22nd began to complain of pain over the left side of the face.—On the 27th the pain continued to be severe and she had a convulsive fit.—On July 3rd three teeth were extracted, and for the next few days she felt better.—On the 6th she went out to see the procession in honour of the Royal Wedding, and was much worse in the evening and had several fits.—On the 7th the pain in the head, especially in the back of it, was very severe.—On the 11th Mr. Roper, who had been attending for the last few days and was treating the ear, made out slight double optic neuritis.—On the 12th she complained of very great pain and about 11 A.M. became unconscious. She was admitted into the hospital for immediate operation.

The head having previously been shaved and thoroughly cleansed, an incision was made on the left side one and a quarter inches behind and above the meatus of the ear, and the trephine was applied. The dura mater bulged into the opening and was tense, showing marked pulsation. The membrane was then incised and the needle of an exploring syringe was pushed into the cerebrum in a slightly forward direction, and pus was found. Sinus forceps were passed

[1] Sajous, vol. ii., Annual of the Universal Medical Sciences, 1893.

along the side of the needle and opened, when about two ounces of thick, offensive-smelling pus escaped. A large drainage-tube was inserted, and the superficial wound was partly closed and dressed with sal-alembroth dressings.—Up to the 16th the discharge had been slight, but on the morning of that day there was a little more, with blood, and the tube was shortened. She had spoken once since the operation, and had said "yes." The urine was drawn off regularly with a catheter. She had not been able to swallow food, so was fed by the rectum. Immediately after the operation the pulse rose to 88, at about which point it remained. The temperature was normal.

18th.—The tube was again shortened. The discharge is less offensive. She takes milk well by the mouth and speaks when she is spoken to.

30th.—The tube was left out altogether and she is very much better, but is restless and has some loss of memory.

Aug. 31st.—She was discharged; the memory is still faulty, but in all other respects she is well.

Oct. 2nd.—Up to this date she remains well, with a steady improvement in her memory.

BRIDGWATER INFIRMARY.

TWO CASES OF EMPYEMA TREATED BY REPEATED ASPIRATION; RECOVERY.

(Under the care of Mr. R. HENRY F. ROUTH.)

THE treatment of empyema by means of aspiration was successfully carried out in the cases here recorded by Mr. Routh. Both the patients were children, and in both aspiration was performed several times. In the first case the chest was tapped on five occasions, the first puncture being made for diagnostic purposes. Five days afterwards the side was aspirated, aspiration repeated fifteen days after, thirty-three days after that, and finally thirteen days later—the quantity of pus removed varying on each occasion. In the second case, where the girl was older, aspiration was resorted to at once on admission, again a week later, then four days subsequently, and was repeated for the last time in three days. The cases remind us of a fact which is apt to be lost sight of in these days of aseptic incision and drainage, that aspiration is undoubtedly a curative method of treatment in children, but usually requires to be repeated. If it is undertaken the patient should be carefully watched and the chest tapped at once if re-accumulation of the fluid takes place. Again, it must not be forgotten that this method is not a certain means of cure, and should be given up when the tendency of the pus to re-accumulate is very marked. It must also be recollected that time is of great importance in the treatment of empyemata, and if the pressure on the lung is not soon removed the lung may not expand again when the patient has recovered from the empyema. Aspiration is a most valuable method in cases of double empyema.

CASE 1.—A boy aged seven was admitted to the Bridgwater Infirmary on June 7th complaining of pain in the side, slight cough, night sweats, and malaise generally. For several days previously he had had headache, occasional sickness, and loss of appetite. The patient was pale, anæmic, and very thin. On inspecting the chest it was noticed that the left side was fuller than the right, the lower intercostal spaces bulging. During inspiration the left side hardly moved at all. The heart's apex-beat lay between the fourth and fifth spaces to the right of the sternum. There was curving of the spine, the concavity lying towards the left side. The vocal fremitus was entirely absent over the left chest, except at the apex, and the heart's apex-beat could be felt to the right of the sternum. Percussion revealed marked dulness from the third left rib downwards and extending into the axilla and round to the base behind. The note was hyper-resonant at the apex. The breath sounds at the left apex were increased, being very feeble below that and inaudible behind. Pericardial friction was distinctly heard. The temperature was 100° F., and the pulse 105. A needle was put into the chest, and pus drawn from the front, but none from a puncture made behind.—On the 12th the temperature was 101°, and twelve ounces and a half of pus were removed by aspiration. The temperature became normal next day and remained so for ten days, afterwards rising to 101°.—On the 27th eleven ounces of pus were removed. The temperature then became normal and remained so until July 25th, when it began to rise, and on the 30th it reached 102°. The patient's chest was again aspirated, and fifteen ounces of pus were drawn off. The temperature dropped at once, but after three or four days began to rise, reaching 103° on Aug. 12th, when ten ounces were removed. From this time the temperature gradually fell to normal, and has continued so ever since; and on Sept. 5th the patient was discharged with the following result: the left chest was slightly flattened; on inspiration it was sucked in over the region of the heart; the apex-beat was felt behind and to the left of the sternum; the measurement of the left chest was 10¾ in. and that of the right 12 in. Percussion gave slight dulness from the third left rib in front; the breath sounds were now quite audible, but diminished; there was no pericardial rub. The right shoulder was raised, but this was due to the persisting spinal curvature. Behind, both bases were resonant, and the breath-sounds were equally distinct on both sides. The child had gained in weight, expressed himself as feeling quite well, and had improved in appearance.

CASE 2.—A girl aged fourteen was admitted on Aug. 6th complaining of a cough for three weeks, of hurried breathing, and of pain in the left chest. She had never had any previous illness, but had lately been nursing and sleeping with a younger sister who had had inflammation of the lungs. The patient had been in bed herself for fourteen days previously to admission, and stated that she had spat up a great deal of blood and phlegm, and had had also considerable perspiration and great restlessness. On admission to the infirmary she was thin and very pale, with a hectic flush on each cheek. She seemed to be quite exhausted; the breathing was very hurried and shallow. She had pain in the left side, frequent coughing, and expectoration of pus. The temperature was 102·4°, with a very small, rapid, and irregular pulse. The chest was seemingly well formed; the left chest was immovable, the lower intercostal spaces bulging. She had some herpes at the angle of the mouth. The alæ nasi were moving with respiration. Anorexia was present. The heart's apex-beat was felt to the right of the sternum in the fourth space. The pulse was 130. On percussing the left chest there was found to be absolute dulness from the second space, extending all round to the back, but not so well marked. The breath sounds were inaudible, except at the apex of the left side. Vocal resonance was absent; but at the angle of the scapula the breath sounds were just audible. The patient's condition being deemed very critical, she was immediately aspirated in the sixth space in the axillary line, and forty-five ounces of pus were removed. Great relief to all the symptoms was immediate. Although this aspiration was only looked upon as a preliminary to excision of a rib and drainage, the patient improved so markedly after it that it was resolved to postpone the major operation. The temperature at once dropped to normal and the pulse improved. On Aug. 14th the temperature ran up to 100·4°; the patient was again aspirated and thirty-eight ounces of pus were removed. Again the temperature fell, and it remained down for four days. On the 18th, as the line of dulness began to extend upwards and the temperature was 99·6°, the chest was again aspirated, and this time fifteen ounces were drawn off. Three days later, as the temperature had failed to reach the normal more than once after the preceding aspiration, a needle was again inserted and ten ounces of pus escaped. From that day the temperature fell to normal; the patient began to talk freely and read to the other patients in the ward; her colour improved, she put on flesh, and became perfectly well. She was discharged on Sept. 23rd, when her condition was as follows: The apex beat had returned to its normal position. There was flattening of the left chest, which now moved fairly well. The left chest measured 14½ in., the right 15 in.; during full inspiration the left chest measured 15 in., the right 15½ in. There was slight dulness extending from the upper border of the third rib on the left side; there was some dulness at the base behind, but the chest was quite resonant in the mid-axillary line. The breath sounds were quite distinct, but not so loud as on the right side.

BACTERIOLOGY AT KING'S COLLEGE.—The number of students who attended the Bacteriological Department at King's College during the session 1892–93 was 153, made up as follows: Post-graduate Lectures and Practical Course, 61; Laboratory Course, 19; Evening Lectures and Practical Course, 54; Course for Diploma of Public Health, 6; and 13 students who attended the Demonstrations for Students in Public Health. For the session 1893–94 up to Oct. 19th there were 17 entries for the Post-graduate Lectures and Practical Course, 6 for Laboratory Course, 31 for the Evening Lectures and Practical Course, and 1 for the Course for the Public Health Diploma: making a total of 55.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

THE first ordinary meeting of this Society for the winter session was held on Oct. 24th, Mr. Henry Power, Vice-President, being in the chair.

Before the work of the evening commenced a vote of sympathy was passed with the family of Sir Andrew Clark, the President of the Society, who is at the present time seriously ill. The vote was moved by Mr. GEORGE POLLOCK, seconded by Dr. RUSSELL REYNOLDS, and supported by Dr. HARE. Reference was made by the speakers to the value of his life not only to his family but also to the profession, and a fervent hope was expressed that he might be soon restored to health.—The CHAIRMAN then presented the Marshall Hall Memorial Prize to Dr. Gowers for the best original work during the last five years in this country on the nervous system. Referring to the work done by Dr. Gowers and that of the other holders of this prize—Dr. Hughlings Jackson, Dr. Ferrier, and Dr. Gaskell—Mr. Power remarked that it was only by such labours that the profession could hope to gain an accurate knowledge of the nervous system.—Dr. GOWERS, in reply, said that the reception of the Marshall Hall memorial prize was a source of extreme gratification to him. He thanked most sincerely the Council and Fellows of the Society for their selection; it was an acknowledgment of work done by a voice out of the region of silence, which for the most part surrounded that portion of a physician's work which consisted in an attempt to give help to other members of the profession. Of the results of this only a faint echo now and then reached the worker. He should not complain, for it was a characteristic of the profession in all its ranks, that work was done irrespective of reward. As a testimony that some assistance had been given worthy of recognition, the prize to him was not only a source of gratification, but also a source of help. He received the prize as a reward for past efforts, an encouragement for present labour, and an incentive to future work.

Multiple Joint Disease.

Mr. BOWLBY read a paper on Disease of Many Joints, probably of syphilitic origin. The patient was a young man aged twenty at the time of his death. His history was that he had enjoyed good health until the age of thirteen, when he suffered from a transient attack of synovitis of the left knee. A year later swellings began to form on his shins, and several months later one of these swellings discharged and some bone came away at the same time. The patient was admitted into St. Bartholomew's Hospital at the age of sixteen with an open sore on one leg and enlargement of the tibiæ. He was under treatment by Mr. Morrant Baker for a few months and left the hospital with his wound healed. A year later he returned with his leg again ulcerated, and soon afterwards began to suffer from effusion in the knee- and elbow-joints. From this time he continued to suffer with swelling and stiffness of the affected joints until the time of his death, but before he died he had gummatous swellings on the forehead, arm, and jaw, which broke down and discharged. He also suffered from chronic osteitis of the humerus. His death resulted from amyloid disease of the viscera. The post-mortem examination showed gummatous masses on the calvaria, old cicatrices in the pharynx, and amyloid disease of the kidneys liver, and spleen, with very great enlargement of the two latter viscera. Both elbow-joints, the right shoulder-joint, and both knee-joints were diseased, as were also the tibiæ and the humeri. The lesions in the different joints were all of the same nature. The synovial membrane was thickened, and its fringes were enlarged and pedunculated. The synovial fluid was thick and increased in quantity. The cartilages were in parts thickened and deformed by the development of ecchondroses, and in other parts they were extensively destroyed. They presented an appearance as if portions of cartilage had been gouged away so as to leave irregular tracts with crescentic margins. In some parts the whole thickness of the cartilage had been so destroyed, in other parts only a portion of it. The articular surface was thus changed from a smooth and regular one to one with irregular marginal thickenings and gouged-out pits or grooves of various sizes towards the more central parts. The bones were carious, and beneath the articular cartilage there had been a rarefying osteitis with the deposit of caseous material in places. The ligaments were not materially affected. There was no attempt at ankylosis. It was pointed out that, whilst there was a good deal of evidence in favour of the disease being syphilitic, the lesions of the cartilage in particular were not of the nature commonly met with in this disease. Mr. Bowlby expressed the opinion that the cartilage lesions were only in part primary and were due in great part to disease of the subjacent bone, and he considered that they resembled, in all probability, the cartilage lesions described by Professor Virchow and illustrated by specimens in his museum. He further suggested that in the chronic arthritis met with in children with congenital syphilis it was very probable that the lesion was of the same type. In conclusion allusion was made to cases of a similar nature described by other writers.

Mr. JONATHAN HUTCHINSON, jun., said he was glad the subject had been brought before the Society, as syphilitic joint diseases had not been sufficiently observed. He thought that Mr. Bowlby had tried to separate syphilitic joint disease too sharply into the four or five varieties which had been described. It could not truly be said that because a joint did not improve under anti-syphilitic treatment therefore it was not syphilitic. He ventured to doubt whether the specimens shown were unique, for Professor Virchow had described in great detail this "gouged out" condition of cartilage, and his specimens of the malady were probably the best in Europe; his collection included two or three specimens like those shown. He did not know that there was much difference between the joint affections of congenital and of acquired syphilis, but the symmetrical synovitis of the knees occurring about puberty was perhaps peculiar to the congenital form. In the case shown the microscopical examination excluded tubercle altogether. The Guy's Hospital museum specimen referred to by Mr. Bowlby, which he (the speaker) had mentioned in his lectures, showed similar erosive changes. The evidence of chrondritis with fibrillation of cartilage showed it to be specific according to Professor Virchow's description, and besides it was identified by the presence of a sub-synovial gumma. He said that fortunately these lesions of symmetrical synovitis occurring shortly after interstitial keratitis almost always cleared up entirely under treatment.

Mr. MARMADUKE SHEILD said that all surgeons occasionally met with bad cases of congenital syphilis somewhat of this type. Absence of corneal changes alone was not sufficient to exclude syphilis, and the importance of examining the fundus was insisted on. He had recently seen a child aged seven the head of whose tibia was extensively ulcerated, and ultimately the leg had to be removed. Many swellings of the cranial bones afterwards appeared, which ulcerated, leaving the dura mater bare. He had attributed the condition to tubercle, but the line of demarcation between tubercle and syphilis was not easy to define, either clinically or pathologically. He suggested that the two constitutional processes might be mixed, and he mentioned the severity with which lupus attacked cases of congenital syphilis to show how the one process might react on the other.

Mr. BOWLBY, in reply, was glad to hear that the speakers supported his diagnosis of syphilis. He considered Mr. Hutchinson's contribution to the discussion as peculiarly valuable, as he had had the advantage of seeing Professor Virchow's specimens. It was at Mr. Morrant Baker's suggestion, owing to the difficulty of coming to a conclusion as to whether the condition was syphilitic or tubercular, that he had brought the case before the Society. Pathologically the appearances were not such as to suggest tubercle, and clinically there had been no evidence of such extensive lesions as were found post mortem.

OPHTHALMOLOGICAL SOCIETY.

One Hundred Consecutive Cases of Epilepsy: their Refraction and Treatment by Glasses.—Rapidly Growing Sarcoma in a Child, involving both Orbits with Secondary Growths.—Unusual Appearances resembling Cyst after Cataract Extraction, due to Distended Capsule.—Autochromatic Plates in Photography of the Fundus Oculi.—Demonstration of Ophthalmotrope.

THE first ordinary meeting of this Society for the present session was held on Thursday, Oct. 19th, the President, Dr. ARGYLL-ROBERTSON, in the chair.

THE PRESIDENT'S ADDRESS.

The PRESIDENT, after paying a tribute to his predecessor in office, and acknowledging the honour paid him and the

members of the Society not resident in London by his election as the first non-resident President, proceeded to speak of the contributions which ophthalmology had made to medicine in regard to diagnosis, progress, and treatment. In the first place, he claimed that ophthalmology had suggested lines of treatment which had proved of the greatest service in remedying conditions otherwise difficult of alleviation and cure. As instances of this he mentioned the case of headaches of neuralgic type, found intractable even under prolonged medical treatment, and sometimes attended by such severe gastric disturbance and grave general symptoms of malaise as to lead to the suspicion of serious cerebral lesion, and yet in which the adaptation of suitable glasses for the relief of some latent tendency to misdirection of the eyes served to dispel all the serious symptoms; that even epilepsy might in some instances be produced by ocular strains had been maintained by some, and it appeared certain that in some cases at least the fits were aggravated, if not induced, by uncorrected refraction. As the next example attention was called to the method of shortening or lengthening tendons, first applied to the eye, and now adopted in cases of muscular deformities by general surgeons. He then referred to the employment of cocaine as a local anæsthetic Though it was true that the drug was first used in laryngeal surgery, a more general knowledge of its efficacy and its use by hypodermic injection in operations on the surface of the body, with its value in allaying pain in many irritable conditions, dated from its general employment in ophthalmic practice. In addition to these services ophthalmology had afforded a testing ground for not a few remedies of repute, the peculiarity of structure of the eye offering an opportunity of watching the effect of treatment on deeper-seated tissues such as was presented by no other part of the body. Thus, regarding the effect of mercurial treatment in syphilitic affections, it might be justly claimed that the eye had been the field in which the value of this treatment had been tested. Anyone who had seen an inflammatory thickening of the iris of syphilitic origin, which had resisted other treatment for weeks, steadily disappear as the mercury was cautiously pushed, must necessarily have faith in the employment of the drug in similar inflammation of other parts. He who had watched a syphilitic choroiditis yield in similar fashion had his faith further strengthened. Another example was afforded by the demonstration of the beneficial effects of local depletion, which are nowhere more marked than in the acute deep-seated affections of the eye. There were few, if any, ophthalmic surgeons who could not recall instances of great and immediate relief experienced by patients suffering from acute iritis, cyclitis, or glaucoma, from the application of a few leeches to the temple. Not merely did the patient obtain mitigation of pain, but the inflammatory injection of the eye was reduced, and further local applications, which had previously failed to produce benefit, now proved rapidly efficacious. He deplored the tendency to abandon local depletion, now evidenced by the great diminution in the demand for leeches, which scarcely amounted to one-tenth of what it was forty years ago. Another method of treatment somewhat discredited at the present time was counter-irritation. Blisters, like leeches, could scarcely be ranked among pleasant remedies, yet they were extremely valuable. He appealed to his hearers as to their experience of the effect of counter-irritation in subacute corneal inflammation and ulceration, in which their effects were as striking and effective as in the somewhat analagous affection of inflammation and ulceration of articular cartilages. He was inclined to the belief that the efficiency of counter-irritation very much depended upon the relation of the part blistered to the inflamed organ—in other words, to produce a thorough effect the region irritated must have some close and definite nervous relationship to the part inflamed. It was not yet possible from anatomical considerations to fix on these regions, and only clinical experience or experimental investigation could serve as a guide. Irritation produced in the eyelids had a much more subtle influence in altering the vascular condition of an inflamed eye than an irritant application to the temporal or post-aural regions. In connexion with this Dr. Argyll-Robertson described a method employed in Edinburgh for above thirty years, which consists in moistening the skin of the upper eyelid, and then rubbing a stick of lunar caustic three or four times across the moistened surface.

Mr. H. WORK DODD read a paper on One Hundred Consecutive Cases of Epilepsy, with their Refraction and Treatment by Glasses. In these cases the observations included examination of the pupils and fundus oculi, the determination of the vision and refraction before and after mydriasis, and the result of treatment by glasses. The diagnosis of epilepsy was independently confirmed by the physician in attendance at the West-end Hospital for Nervous Diseases, where the patients were seen; the results were compared with a classification of percentages from fifty cases of apparently normal eyes which had been worked out in the same manner. The comparison showed that of simple hypermetropia there were 28 per cent. less in the epileptic than in the apparently normal class; of astigmatism there were 26 per cent more in the epileptic division than in the normal one, the amount being made up mainly of compound hypermetropic astigmatism. Of the 100 consecutive cases of epileptics, 75 were ordered to wear glasses; of these there were 23 who either did not wear them or failed to report themselves later and could not be found. Of the remaining 52 cases there were: (*a*) 13 who had had no fits since using glasses, during periods varying from one year to four months; (*b*) 3 cases who had remained *in statu quo;* (*c*) 36 cases whose condition had improved since wearing the glasses, in the majority of these the improvement was marked. In all the cases the physician had continued his ordinary treatment. It seemed to result that, given a certain condition of instability of the nervous system: (*a*) errors of refraction might excite epilepsy; (*b*) the correction of errors of refraction would, in combination with other treatment, in many cases cure or relieve epilepsy; (*c*) in some cases, when the refraction error had been corrected, the epilepsy would continue, generally in a modified form, in consequence of other irritation, even though the error of refraction might have been the exciting cause of the epilepsy. Dr. Beevor was of opinion that before these cases were regarded as cured medicinal treatment should be discontinued for some months, as periods of freedom from fits were not uncommon in epilepsy.

Mr. SNELL reported a case of Rapidly Growing Sarcoma in a Child, involving both Orbits and Secondary Growths. The patient, a boy aged four, was well up to November, 1892, when he had an attack of mumps. His trouble appeared to immediately follow this, but later inquiry had elicited the fact that he sustained a slight blow over the left eyebrow in the previous July from a pump-handle. Swelling of the lids resulted, but entirely disappeared again after a fortnight. This was thought nothing of, and was forgotten until repeated inquiries as to injury were made. By January the left eyeball was noticed to be prominent, the right in February. The left, which was always the worse, increased more than the right. He was admitted to the infirmary on March 8th. He was then very emaciated and anæmic. The left globe protruded forwards, but also downwards and slightly outwards; a swelling in the orbit above the eyeball and a feeling of growth in the orbit were detected. On the right side the conditions were much less marked There were ecchymoses in both upper lids, and there had been epistaxis. The fundus oculi on both sides was normal, and vision was apparently unaffected. There was a large swelling of the left temporal region reaching from the orbit to the ear, with large veins coursing over it. The orbital growth developed rapidly, on the left side especially, the eyeball became more protruded and the cornea sloughed, the pre-auricular and cervical glands became enlarged, the growth in the left temple got larger, and one developed in the right temple, as did one over the coronal suture of the left side. The patient died on March 19th. At the necropsy, on reflection of the scalp, four swellings were noticed, one on either side near the coronal suture, and the other two near the parietal eminence on each side; they were dark purple in colour, and the two last were about the size of five-shilling pieces. They were under the periosteum involving the bone; in addition, the temporal fossa on each side had a tumour. Both orbits were filled, bulging the roofs upwards and backwards; the growth involved the upper and inner parts, and was continuous across the interorbital space; the dura mater was thickened, the inside of the skullcap bulgings corresponding to the external ones. There was a large number of affected glands in the abdomen. The microscopic characters were those of a rapidly growing sarcoma. The relation of trauma and mumps as a cause in this case was discussed, and it was mentioned that the lacrymal gland was unaffected.

Mr. SNELL also related particulars of a case Presenting Unusual Appearances after Cataract Extraction, simulating Cyst, but really due to a Distended Capsule. The patient, a woman, in 1879 had been operated on for cataract in the left

eye. The note then entered was: "S.F., aged thirty-nine; shallow lower flap; lens removed with vectis; little vitreous escaped. July 1st, V + 4½ = $\frac{6}{18}$ and reads J 1 easily with + 2½." About six or seven years ago the patient noticed a small white body in front of the pupil; this gradually increased in size. When seen this year it was found to occupy an extent equal to more than half the length of the cornea; it was pear-shaped, the thicker end being upwards and inwards. It often disappeared behind the iris, but was generally in the anterior chamber. It had a very slender attachment to the iris at the back below. In July it was removed through a small peripheral corneal section below and outwards; V with correction = $\frac{6}{9}$. Mr. Treacher Collins examined the specimen and found that it was not a true cyst, but composed of the lens capsule with some degenerate lens substance in the interior.

Dr. HOWE read a paper on Autochromatic Plates in Photography of the Interior of the Eye. The great advance made by the discovery of isochromatic plates in photography of the fundus oculi was pointed out by him. Specimens of the latest photographs of the fundus oculi were shown.

Dr. LANDOLT (Paris) demonstrated his ophthalmotrope, an instrument whose object was the demonstration of the direction and the position which the eye takes under the influence of each of its muscles, and the position of the false image in the case of paralysis of a given muscle.

The following living and card specimens were shown:—

Dr. BEAUMONT: Neoplasm of the Iris.

Mr. ROLSTON: Traumatic Dislocation of both Lenses.

Mr. TREACHER COLLINS: Specimen showing Eyelashes carried into the Vitreous Chamber by a Knife.

Dr. BALMANNO SQUIRE: A Case of Lupus Vulgaris Involving the Eyeball.

Dr. S. STEPHENSON: A Modified Desmarres' Refractor.

Dr. ERNEST CLARKE: A Case of Slight Enlargement of the Right Thyroid with Graefe's Sign on Right Side only.

PROVINCIAL MEDICAL SOCIETIES.

ROYAL MEDICAL SOCIETY, EDINBURGH. — Professor Gairdner of Glasgow delivered on Friday of last week the inaugural address of the 157th session of the Edinburgh Royal Medical Society. The chair was occupied by Dr. A. W. S. Carmichael, the senior president, and there was a large attendance. Professor Gairdner said it was not by constraint, but very willingly, that he was there, for it was one of the privileges of a teacher that he was able at all times to enjoy as well as to profit by association with younger minds. He proposed to invite their attention to those personal reminiscences and suggestions which only a man advancing in years was qualified to place before the young, which might be invested with some degree of human interest, and which might carry a moral with them. He took them back to the period between his graduation in 1845 and his going to Glasgow in 1862. In those old days there was nothing like regular instruction in surgical mechanism, not even in bandaging, which, for the most part, was learned from the nurses. All that was changed nowadays. The students of forty years ago, though many of them became good surgeons, had a great many more opportunities than they had now of going out into the world in a discreditable state of ignorance. Edinburgh, to him, was a city full of ghosts, not of those which gibbered and squeaked and rapped upon tables and declaimed nonsense in the names of great men departed, but those which still lived on in the memory of survivors—not amid associations of terror or vulgar curiosity, but in a blest communion of spirits which was too real to require what was vulgarly called "materialism." He then briefly touched upon his acquaintance with Warburton Begbie, William Robertson, Charles Murchison, Professor Sanders, and Sir Robert Christison. To those he was addressing was committed the future of the profession in Edinburgh and many other places. Let them fulfil their parts in it with as much power and vigour as might be, but also in the spirit of peace. Controversy, no doubt, and discussion must needs exist where opinions differed. Much depended on the men. Eminence might come to some of them, or it might not; but character in the sense of what made or marred the individual man in the daily work of the world was what they could not help forming. They could not help moulding a character or losing it; and character, though it might be easily tarnished and even ruined by inadvertence, could not be made at a rush but by slow and patient work. How easy it was, often by the mere turn of a hair, to lose or to ruin a character. Those men all worked well because they worked slowly and patiently. None of them aimed merely at notoriety. Not one of them was capable of taking an unfair advantage at the expense of his neighbour. Therein lay his little moral, and he hoped that it came home to them without offending anyone.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.—At the annual meeting of this Society, held on Oct. 12th, the following officers were elected for 1893–94:—President: Dr. J. Adamson. Vice-Presidents: Drs. D. Drummond, W. Gowans, J. Murphy, and T. Oliver. Hon. Secretaries: Dr. J. Limont and Mr. Rutherford Morison. Committee: Dr. R. Anderson, Mr. W. G. Black, Mr. J. L. Crisp, Dr. J. Drummond, Dr. S. Fielden, Dr. G. R. Murray, Dr. J. W. Smith, Dr. T. Squance, and Mr. G. S. Williamson. At the same meeting, Dr. J. ADAMSON, President, in the chair, the following living specimens were introduced. Mr. G. W. RIDLEY showed: 1. A boy on whom he had performed Laparotomy a year ago for a Right Iliac Swelling, accompanied by diarrhœa and marked febrile disturbance. At the operation the swelling was found to be tuberculous in nature, but the patient made a good recovery and was now in excellent health. 2. A boy whose ankle-joint he had excised four months previously for Tuberculous Disease. The wound healed without suppuration and the movements were now almost normal. 3. A child whose Hip-joint he had excised with good result.—Mr. RUTHERFORD MORISON showed a series of cases of Syphilis illustrating points of interest.—Mr. PAGE showed: 1. A young man the whole of whose inferior maxilla he had removed for a large Sarcomatous Tumour. 2. A boy operated on on the fifth day of Acute Obstruction. The appendix, inflamed and perforated by a concretion, was removed. 3. Another boy with a similar history, in whose case the appendix was also removed. 4. A man on whom Halstead's radical cure had been performed.—Dr. DRUMMOND exhibited: 1. A man with Tumour of the Pons, in whom the following symptoms had developed: facial paralysis, hemiplegia of one side, hemiplegia of the other side, conjugate deviation of the eyes to the right, headache, vomiting, and difficulty in swallowing and speaking; optic neuritis was not present. 2. A case of Mitral Stenosis, which was considered to favour the opinion that part, at least, of the presystolic murmur was ventricular-systolic.—Dr. LIMONT showed three cases of Psoriasis: 1. In a man aged fifty-five, who had been affected for fifty years. When first seen all the limbs, trunk, face, and scalp were affected. He was ordered 15 grains of thyroid powder; no external application was used. Within a week there was distinct improvement, and at the end of seven weeks the eruption had disappeared from the head, face, trunk, and arms, and slight traces only were left on the neck and lower third of the legs. The patient was more nearly free from the disease than he had been for fifty years. 2. In a female aged twenty-four, who had been affected for sixteen years. The eruption was widespread and markedly gyrate, with great tendency to cracking; the epithelium tended to form laminæ rather than scales. This case had been treated for a month with the thyroid powder without any benefit. 3. In a man with widespread Psoriasis, whom it was intended to treat in the same way.—The following specimens were also brought forward: Dr. ROBERTSON showed (1) a new Electric Forehead Lamp and (2) a new Chair for the use of Laryngologists.—Mr. PAGE exhibited a Renal Calculus removed from the Right Kidney. The patient was stout and muscular, and the operation correspondingly difficult, but very rapid union and recovery had taken place.—Dr. DRUMMOND showed the Liver of a girl who had died of Phosphorus Poisoning produced by eating matches. Death occurred on the fifth day. The liver had undergone extreme fatty degeneration, as had the kidneys, heart, and muscles.—Dr. LIMONT showed the Ureters, with Bladder and Kidneys, of a man who died of Obstructive Suppression, both ureters being blocked by calculi.—Dr. ROBERTSON read a paper on the Use of Pure Sterilised Vaseline Oil in Chronic Otitis and Otorrhœa.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—The first meeting of the present session was held on the 18th inst., Dr. WALTER HUNTER, President, being in the chair.—The inaugural address was delivered by Dr. T. LAUDER BRUNTON, F.R.S., the subject being Certain Forms of Diarrhœa. The following is an outline of his remarks: Particular notice was taken of "morning diarrhœa," which might depend on small

ulcers situated in the rectum or sigmoid flexure, which should be treated by astringent and sedative ointments. Another cause of frequent early evacuations was the habit of taking a full meal, including much liquid, before going to bed; the fluid mass was apt to lie unabsorbed the whole night, but when a person began to move about in the morning energetic peristaltic action developed in the intestines, and this, aided by fermentative changes in the undigested food, brought on diarrhœa. Allusion was made to the action of purgatives and their relative effects on the large and small intestine respectively. The symptoms of "sprue," or "hill diarrhœa," were discussed and the curative effects of an exclusively milk diet insisted on. Abdominal massage was recommended for atonic conditions of the muscular coat of the stomach and bowels. Small doses of arsenic were valuable in the diarrhœa which was apt to come on after meals, and quinine was recommended for the periodical diarrhœa which was prevalent in malarial districts. Chronic diarrhœa was apt to be associated with malignant disease in the colon or rectum. In these cases, in addition to giving bismuth and other astringents, it was important to eliminate all soluble residues from the food.

Reviews and Notices of Books.

On Sewage Treatment and Disposal for Cities, Towns, Villages, Private Dwellings, and Public Institutions. By THOMAS WARDLE, Fellow of the Chemical Society, the Geological Society, &c. Manchester, London, and Bristol: John Heywood.

SINCE the introduction of the water-carriage system the convenient, effectual, and healthy disposal of sewage has largely absorbed the serious attention and consideration of engineers and chemists. Chemists have attacked the problem with commendable vigour, and in this respect they have perhaps outstripped the engineers, but it must not be supposed that the disposal of sewage by chemical means is at all an economical process—at its best it simply effects a partial purification, so that an effluent sufficiently pure to mix with water-supplying rivers is produced. For the present that is practically all that is done. No known process effects anything like the complete utilisation of what must ultimately prove to be the valuable agricultural constituents of human excreta. When the stock of chemicals with which the chemist is able to supply us is compared with the enormous volume of oxygen which surrounds us, and which is available not only to sustain life but to remove matters inimical to human existence, all attempts to deal effectually and economically with the vast outpourings of a large town like London by purely chemical means would seem to be akin to undertaking the artificial supply of oxygen sufficient to maintain the life of its inhabitants. The part played by organisms in purifying or scavenging streams and in effecting the oxidation of organic matter is only just beginning to be understood, but from accounts that have recently reached us, it would appear that there is some likelihood of the practical employment of bacteria being the means of bringing to a satisfactory issue the vexed question of the economical disposal of sewage. Thus, according to the experiments carried on recently by the State Board of Health, Massachusetts, it has been shown that by paying attention to the requirements of the nitrifying organism, sewage may be effectually dealt with, and the organic matter completely converted into the innocuous substances water, carbonic acid, and nitrates. Indeed, the process may be regarded as a moist combustion, in which the products obtained are not only non-injurious, but of the kind which actually minister to the wants of the vegetable, and therefore indirectly to the animal, kingdom.

Until, however, our knowledge of these singularly interesting operations is more exact and our method of engineering the nitrifying organism is placed under greater control, we must be content to accept the most effectual methods of treatment which are at our disposal at the present time. It must be confessed that, however unsatisfactory from an economical point of view the present systems of treatment of sewage are, chemistry yet furnishes us with processes which, as long as they are instrumental in removing a nuisance, and therefore in minimising certain sources of danger to health, must be valued on that ground alone; and those wishing to be conversant with the practical working and value of these processes as they are carried out at the present time will read with considerable profit the work before us. This is not confined, however, to the mere description and criticism of the processes—the principles of which rest for the most part on the precipitation of organic matters by the addition of certain reagents—but it also contains several interesting chapters bearing on the scientific matters involved. Such are, for instance, the chapters on the methods of chemical analysis, on the standards of purity, on bacteria, and on the etiology of sewage, in which occur many excellent illustrations of the species of organisms, most of which, the author acknowledges, are reproduced from standard scientific works. The bulk of the volume is devoted, however, to the discussion of the merits of various processes, electrical, chemical and natural, and the conclusion Mr. Wardle arrives at in summing up the whole question may be gathered from a paragraph on page 250, in which he says: "I am thus led to the conviction that the best method of sewage disposal is that which precipitates a portion of the organic matter and gives a clear effluent which can be used for irrigation, and after that river oxidation." His observations and conclusions are not without weight and force, and his criticisms of the various processes under review are founded on a reasonable basis.

The disposal, or rather utilisation, of the solid product of chemical treatment—viz., the sludge—is the weak point in all precipitation systems. In practice the sewage cake is found to be of little manurial value; it contains variable and comparatively large quantities of mineral ingredients—lime, iron, and alumina—which, when worked into the soil, tend to deprive it of its essential qualities. The author fails to show, in our opinion, that sewage sludge is of any value as a fertiliser; on the contrary, in the table on page 251, giving the fertilising value of various "cakes" calculated chemically, we find that the actual realised price—that is to say, when a price was realised at all—is less than a sixth of the calculated value. In other instances we find such observations as "given away," "value not stated," "dug into ground," "3*d.* per cartload," &c. It is evident, therefore, that the calculated value of sludge or sewage cake is not yet appreciated by the farmer. The possibility of dangers to health arising from animals feeding on pastures irrigated by crude sewage, and the probable communication of disease thereby, form the principal topics of Chapter 23, and the author quotes strong evidence to show that milk may be infected before it is drawn, and instances are cited where the contamination of milk could not be traced to any circumstances which might have happened on its way from the cow to the consumer. This argument has afforded the strongest ground for objection to the treatment of meadowlands with raw sewage and to irrigation methods generally. It is undoubtedly dangerous to feed cattle on grass so treated, as it is also wrong to choke and poison grass with raw slimy sewage. But these are precisely the difficulties which the nitrification process promises to overcome; and the conditions essential to success, according to the Massachusetts experiments, are first to allow the sewage to pass through layers of fine sand, and then to keep the organisms well supplied with oxygen by alternately presenting to them first the pabulum and then the air. When nitrification is complete the effluent should contain nothing but readily soluble and valuable fertilising substances, which, rather than stifle growing plants, will actually afford them healthy nourishment. If these conditions come to be realised on a large

scale one of the knottiest problems of the present time will have been completely solved.

The book before us is an important contribution to the subject, and its value is increased from the fact that much of the matter contained in its pages is the outcome of many years' experiment and practical acquaintance with the majority of the methods with which it deals. We have detected but few inadvertencies, and they may be mainly ascribed to mistakes on the part of the printer. The volume will rank as one of the standard works on the disposal of sewage, and engineers, chemists and others will welcome it as a reliable book of reference.

Dictionary of National Biography. Vol. XXXVI.: Malthus—Mason. Edited by SIDNEY LEE. London: Smith, Elder and Co.

IN welcoming former issues of this work we took occasion to make mention of the inadequacy of some of the memoirs of distinguished members of the medical profession. This remark may be repeated in connexion with the publication of the present volume. The paucity of material in the shape of published works in the case of some of the worthies included in the Dictionary may, it is true, in some instances be alleged as a reasonable excuse. Still, it is to be regretted that in a Dictionary of National Biography something more could not have been said of the literary and other labours of such men as, say, John Marshall, Ranald Martin and other medical celebrities whose names shed lustre on the pages of history and whose lives contributed so much to the progress and prosperity of the country which they adorned.

A large part of this volume is occupied with the record of events, political and social, which occurred in the reigns of Mary I. and II. or in connexion with the history of other royal ladies of that name, so that less space is necessarily accorded to the biography of other people whose lives, nevertheless, are in many cases certainly not less worthy of being held in memory. To these notices—namely, those of medical celebrities—we shall, as has been our wont, almost entirely confine our attention here, and we shall, as formerly, deal with them, and as briefly as possible, in their alphabetical order.

Sir Richard Manningham, M.D., afterwards Bishop of Chester, flourished during the period embraced by the years 1690–1759. He was chief "man-midwife" in his day and was knighted by George I. He published several works connected not only with obstetrics but with general medicine; but his name will, perhaps, be particularly remembered by the introduction in the parochial infirmary of St. James, Westminster, of a ward for parturient women, the first of its kind established in Great Britain.—Charles Blachford Mansfield (1819–55) deserves to be mentioned as a chemist who, at Hofman's request, undertook a series of experiments which resulted in the discovery of the means of extracting benzol from coal tar—a discovery which laid the foundation of the aniline industry. Not long before his death, at the age of thirty-five, which resulted from an accident in the course of his scientific investigations, Mansfield had prepared for publication a work entitled "The Theory of Salts," founded upon a course of lectures delivered before the Royal Institution. This work seems not to have seen the light.—Joseph Mapletoft, M.D. (1631–1721), though chosen Professor of Physic in Gresham College, appears very early to have discarded medicine in favour of theology. Notice of his later career need not therefore detain us.—Of somewhat more interest to the medical profession is the notice of the life and work of Alexander J. G. Marcet, M.D., who was born at Geneva in 1770 and died in 1822. He became physician to Guy's Hospital and lecturer on Chemistry at its school, a position from which he retired in 1819. Afterwards he went to reside at Geneva, and was appointed hon. Professor of Chemistry. He was elected to the Fellowship of the Royal Society in 1815. The principal work published by him was an essay on the "Chemical History and Medical Treatment of Calculous Disorders."—There is in the volume a very short record of the works of Peter Markham, M.D. (fl. 1758), which were devoted almost entirely to the subject of adulteration and the detection of poisons.—The name of W. O. Markham, M.D., is not included in this volume—an omission which is to be regretted, since its owner occupied a prominent position in the ranks of the profession. This physician died on Jan. 23rd, 1891, and a notice of his professional career was inserted in THE LANCET of the 31st of the same month.—Thomas Marryat, M.D. (1730–1792), was educated for the Presbyterian ministry, but afterwards transferred his affections to medicine and chiefly to the therapeutic region of that science. A man of inflexible integrity, says the notice in the Dictionary, his personal appearance was blunt to repulsiveness, yet his considerate kindness to the poor coming under his treatment was unbounded.—William Marsden, M.D. (1796–1867), entered at St. Bartholomew's Hospital, where he was brought under the influence of Abernethy, from which Marsden derived great benefit. Struck by the fact that at the large London hospitals medical relief could be obtained only by the presentation of governors' tickets, he sought to remedy this defect by establishing a small dispensary near Hatton Garden, to whose benefits the poor were admitted without let or hindrance. This institution was the only one in London to receive cholera patients, and upon it was founded the present Royal Free Hospital, Dr. Marsden becoming its senior surgeon. Subsequently he opened a small house in Cannon-row, Westminster, for the reception of persons suffering from cancer, and from this arose the present Cancer Hospital at Brompton. His chief work was one entitled "Symptoms and Treatment of Malignant Diarrhœa or Asiatic Cholera."—Sir Henry Marsh, M.D. (1790–1860), like the subject of a previous notice, abandoned theology in favour of medicine. He became assistant physician to Steevens's Hospital and Professor of Medicine at the Dublin College of Surgeons; he subsequently occupied the presidential chair of the Irish College of Physicians and Surgeons, and was appointed physician-in-ordinary to the Queen in Ireland. Sir Henry Marsh was regarded as an admirable clinical teacher. His writings, however, were not very numerous, being chiefly in the form of lectures, which were published under the editorship of Dr. Stannus Hughes.—James Marsh, an accomplished chemist, is known principally as the inventor of the test for arsenic which goes by his name.—Henry Marshall, M.D., Inspector-General of Hospitals, was born in 1775, and his memory is immortalised by the author of the "Horæ Subsecivæ." The subject of this notice was, in company with Sir A. M. Tulloch, detailed to investigate the statistics of sickness, mortality, and invaliding in the British Army, and their report, which was laid before Parliament, served to effect a complete revolution in the treatment of soldiers in Jamaica. Dr. Marshall was a prolific writer, mostly on questions of military medicine.—The name of John Marshall, F.R.S. (1818–1891), is familiar to all who, in the last two or three decades, have taken an interest in matters appertaining to medicine and surgery, and even beyond them. His departure from amongst us, however, is too recent to warrant us in devoting much space to the life and work of this distinguished surgeon, seeing that these were fully set forth in the obituary notice which we published in THE LANCET of Jan. 10th, 1891.—Sir James Ranald Martin (1793–1874) was equally distinguished with the foregoing, though in a somewhat different line of practice. Many members of the profession who are still living will remember the tall and dignified presence of Sir Ranald Martin, and his unfaltering urbanity in the presence of either equals or inferiors. After obtaining his surgical qualification, he commenced his professional career in India as surgeon in the

East India Company, then, in 1830, as presidency surgeon and surgeon to the General Hospital, Calcutta. Whilst there he published two or three important books, but it was after he left that country that he, in company with Dr. James Johnson, gave to the medical world the classic work "On the Influence of Tropical Climates on European Constitutions," the seventh edition of which he entirely rewrote. In 1866 he was made a C.B., and in the same year he received the honour of knighthood.

On Chorea or St. Vitus's Dance in Children. By OCTAVIUS STURGES, M D, F.R.C.P. Second Edition, pp. 188. London: John Bale and Sons. 1893.

THE views of Dr. Sturges upon chorea are well known, and they were explained at length in the first edition of the book before us. His chief contention is that chorea is in large measure a disease of function due to preventable causes, and that training and management afford the best security against its attacks and the surest means for its cure. Beyond this, however, he gave a full description of chorea, he examined the various explanatory hypotheses which had been suggested, and he appended numerous illustrative cases which supported his views. In the second edition, while finding space for new material, he has been at pains to condense it as far as possible. With the lapse of time certain modifications have become necessary, more particularly with regard to the rheumatic connexion of chorea and the significance of its cardiac phenomena. A short chapter upon Chorea at School has been introduced, and Dr. Sturges urges the importance of school teachers learning to recognise the early symptoms, since it is at school that the affection begins and passes from a mental to a motor disorder. This chapter is one which we would commend to the special notice of all who have to deal with children. The injurious results of injudicious management at school are epigrammatically and convincingly laid down thus: "Infirmity provokes punishment, and punishment aggravates infirmity." It is perhaps in the chapter upon Heart Symptoms that the greatest concessions will be found. Dr. Sturges, after much examination of the views of others in the light of his own experience, comes to the conclusions that the heart affection of chorea is more marked in early than in late childhood, and that the heart symptoms of chorea seem to be best explained upon the hypothesis of some pathological connexion between it and rheumatism. In spite of this concession Dr. Sturges still considers that the main symptoms of chorea are to be referred to functional derangement. As the presentment of the mature views of an accurate observer and lucid writer, this second edition of the treatise upon chorea will attract the thoughtful attention of all members of the medical profession.

Healthy Hospitals: Observations on some points connected with Hospital Construction. By Sir DOUGLAS GALTON, K.C.B., F.R.S., &c. Oxford: The Clarendon Press.

To the long list of works devoted to the consideration of the question of hospitals in their historical, scientific, and social relations, there has been added a valuable *précis* of the leading principles to be observed in their construction, so as to render them best fitted for the important purposes they are intended to fulfil. Sir Douglas Galton has already established a high reputation in both the scientific and practical applications of those principles to the structural relations of hospitals, and he now places at the disposal of those engaged in the creation of such institutions the results of his great experience and knowledge of the right measures to adopt in their reduction to practice.

The primary principles referred to are purity of air, soil, and water-supply, and scrupulous cleanliness in all arrangements, on which success in the treatment of disease and repair of injuries so greatly depends. On all of these points an exhaustive analysis of the investigations of skilled authorities is contained in the monograph under review. To each of the main lines of research belongs various subsidiary, but by no means unimportant, auxiliaries, which are treated in a similar manner; and although there is very little that is new in them, they cannot be safely ignored or dispensed with. They are focussed with skill and detailed in so plain and practical a form as to be readily susceptible of application to the several problems they are intended to solve. They include site—by no means a simple matter; the constitution and movements of air, on which are dependent the all-important measures of ventilation, warming, and lighting; water-supply, of which it would be difficult to over-estimate the value; the ward unit, and similar matters which need determination. Unless all these factors are carefully considered and adapted to varying local conditions it is difficult to avoid such grave errors as have been committed in some of the most pretentious and palatial productions of our times, such as the Hôtel Dieu of Paris, the magnificent Galleria Hospital of Genoa, and in a minor degree our own St. Thomas's Hospital.

Upon the historical bearings of these questions the most reliable guides are still the discussions and conclusions of the Surgical Society of Paris in 1864, the programme of the Health Committee of the French armies in 1872, and the proceedings of the Society of State Medicine (Médecine Publique) and Professional Hygiene in 1885. Palaces constructed at undue cost and difficult to administer are not only unnecessary, but are by no means types of excellence for the management of disease. The Hôtel Dieu of Paris is the principal offender on the score of extravagance, as it cost 40,000 francs a bed and was built in wilful disregard of the views and counsels of eminent hygienists, who strongly disapproved of, and even condemned the plans and position of the proposed hospital before it had been sanctioned. At the suggestion of the late Baron Haussmann it was converted into a counterpoise to the New Opera House and an intended ornament to the city, but so little was it regarded as fit for its proper uses that it was deemed necessary to remove the upper storey at considerable cost before it was occupied. The Galleria Hospital in Italy was pronounced to be a magnificent monument, but opposed in its construction and arrangements to every principle of hygiene. It cost 16,000 francs a bed.

In the remarkable work of M. Tollet on the hospitals erected prior to and during the nineteenth century will be found a complete and beautifully illustrated account of the whole question. It was published in 1889, and in conception and execution is, in many respects, *primus inter pares* of all existing authorities. To return, however, to our review of the work of Sir Douglas Galton, who is described in the great French authority as "le capitaine du génie Donglus Dalton," in consonance with the singular ineptitude of our polished neighbours to render correctly English names—it is so replete with minute details as to render it difficult to note them specifically within the limits of a general notice. It may, however, be safely trusted as a competent and reliable guide, furnishing under every head simple and intelligible rules for consideration and adoption. They are opposed to costly and monumental constructions, and evidently regard simplicity of design and economy of execution as cardinal conditions to be observed in the provision of the hospitals of the future. In our opinion the best line of action lies in the general direction of the Tollet system, as seen in the Montpellier Hospital for 620 patients, which cost £150 a bed, with a cubical capacity of 60 metres, and excellent means for the classification of diseases and injuries, with ample provision for administrative purposes.

THE LANCET.

LONDON: SATURDAY, OCTOBER 28, 1893.

THE Report of the Council of the Royal College of Surgeons of England, just issued to the Fellows and Members, contains a certain amount of material which throws some light upon the present position of College politics and the prospects of reform. It is not possible, however, to form an accurate estimate of these matters from the report alone, for a good deal has happened since the date at which the report terminates, and the report itself contains bare facts and records of resolutions and answers to resolutions without expressions of opinion or anything to indicate the state of parties in the Council at the present time. To arrive at correct views the report must be supplemented from other sources. It is tolerably clear that at the date of the last annual meeting—viz., Nov. 3rd, 1892—the Council still maintained its *vis inertiæ* with regard to making substantial concessions to the Fellows and Members. The efforts of the Fellows and the advocacy of their cause in THE LANCET had succeeded so far as to obtain from the Council the recognition of the principle of holding separate meetings of Fellows and Members and the provision of a common room at the College. For these concessions the Council was thanked in the second resolution, passed at the annual meeting, and the Council acknowledged this resolution with thanks. The first resolution, however, expressing the view that "the ancient attitude of hostility on the part of the Council to the true interests of the body corporate of the College ought to terminate, and that the repeated resolutions passed at former meetings of the College should be carried into effect," was met in the Council by a resolution to the effect "that the mover and seconder of resolution No. 1 be informed that the resolution has been laid before the Council"; and the reply to the third resolution affirming the desirability "that the Fellows and Members should be consulted before any change is made in the constitution and external relations of the College and before the Council is committed to any extraordinary expenditure on buildings or otherwise," was a reference to an extract from the minutes of the council, dated Nov. 17th, 1835: "With the larger questions which more rarely arise, such as those which concern the constitution of the College, the case would be different; on these questions the Council will be glad to have an opportunity, as far as practicable, of consulting the Fellows and Members." It is clear, therefore, that in November last the Council, as a whole, was not prepared to make any very substantial concessions to the Fellows, and much less to the Members by investing them with any effective voice in the management of the College; the consultation of Fellows and Members was to be restricted to those larger questions concerning the constitution of the College which rarely arise. Of this character appear to be the relations in which the College should stand in reference to a Teaching University for London, for on Jan. 12th, 1893, the following resolution was passed in the Council: "That, in order to ascertain the views of the Fellows and Members of the College on the position which, in their opinion, this College should hold in the proposed Teaching University for London, separate meetings of Fellows and Members be convened at an early date after the report of the Gresham Royal Commission has been made public." So far, therefore, as the report of the Council is concerned, the outcome of all the struggles at the College to obtain for Fellows and Members a substantial voice in the management of the College and some control over expenditure would appear to be that the Council is prepared to invite the expression of the opinion of the Fellows and Members occasionally on "the larger questions which more rarely arise." Fortunately the report does not reflect the exact state of opinion in the Council at the present time. The election to the Council in July last, resulting as it did in the return of four Fellows of liberal views, has entirely altered the balance of parties in the Council, and has created a new order of ideas which will lead to the settlement of the future position of the Fellows, and at no distant date to an improvement in the status of the Members. We have always insisted that concessions made to the Fellows must be accompanied *pari passu* by concessions to the Members; but it is not possible under existing circumstances to advance the cause of the Members directly. The time is ripe for the settlement of the claims of the Fellows on a broad and liberal basis, and a committee has been appointed by the Council to draw up a scheme for this purpose. The resolutions relating to this matter were unanimously passed at the last meeting of the Council, and the committee actually comprises a majority of councillors whose views accord with those expressed in THE LANCET. It will not be difficult to formulate a satisfactory scheme for consultation of the Fellows at regular meetings; but the difficulty will be to obtain the consent of the Council to a thorough revision of charters and bylaws to embody the changes which the committee may think expedient. If all the parties interested in the necessary reforms—the Fellows, the Members, and the Council—could be brought to an agreement, all the vexed questions of College politics could be settled on a moderate, reasonable, and lasting basis. Some members of the Council have been frightened by the spectre of a rampant democracy, but there is not a single responsible reformer who wishes to interfere with the ultimate supremacy of the Council. No one desires to weaken its authority; on the contrary, it is the sincere desire of true reformers to strengthen it by enlisting the coöperation and support of the Fellows and Members. Let the Fellows have their separate meetings, and let the Members obtain a moderate representation on the Council, and all the difficulties and dangers which the timorous eye of those who think that *stare super vias antiquas* is the height of wisdom has seen looming in the dim and distant future, will vanish, and like the baseless fabric of a vision leave not a rack behind.

JUNE 2ND, 1891, is likely to be a historical day in the records of the University of Oxford. It certainly ought to be so regarded. At a meeting of the Union held there last week the motion before the House was "that the University of Oxford does not encourage desirable studies." "Oxford," said the mover, Mr. J. L. S. HATTON, M.A.,

of Hertford College, "produced nothing but parsons, schoolmasters, and briefless barristers. For the important professions it provides no training whatsoever." This motion was lost by a majority of forty-five. We think it deserved to be lost. If we had no other reason to give for so thinking, we should find it in the action of the University on June 2nd, 1891, to which we have referred, when Convocation was asked to grant £7000 for the erection of a laboratory of human anatomy. The proposal was accepted by a large majority, and we had the pleasure of reporting last week the successful opening of the new anatomical buildings in the presence of the representatives of all the chief colleges of Oxford and of the medical schools of the United Kingdom. The buildings have been pronounced by Mr. ARTHUR THOMSON, the Lecturer on Anatomy, to be worthy of the subject and of the ancient University itself, and they were also pronounced by Sir WILLIAM TURNER in his interesting address to be admirably arranged for their purpose. The occasion of the opening was also remarkable for the statements made as to the progress of the anatomical class itself. When Mr. ARTHUR THOMSON was appointed to the Lectureship in 1885 there were two slightly depressing circumstances—the absence of a place to lecture in, and an almost equal absence of students to lecture to. He had, to begin with, a lecture room measuring 15 ft. by 10½ ft., and in this he had to find accommodation for three students, himself, a "subject," and a coal-bin. The number of students rose steadily to twelve, thirty, and fifty. With such a growth in numbers Mr. THOMSON'S claims to a suitable building were irresistible, and the University has had the wisdom to recognise this fact. Not the least satisfactory part of the arrangements was that which provided for the delivery of an address on the importance of the Study of Human Anatomy by Sir WILLIAM TURNER, Professor of Anatomy in the University of Edinburgh, who, though still not old, was able to say that he had been engaged for a longer period than any of his contemporaries in the United Kingdom in the teaching of this subject.

We cheerfully recognise in this event a new departure for the University of Oxford. It has, indeed, been far too long deferred. It is monstrous that a university which has had LINACRE, SYDENHAM, HARVEY, THOMAS BROWNE and RADCLIFFE among its graduates or students, and which can boast of such anatomical discoverers as WILLIS and JOLIFFE, should have been till recently unprovided with a lecturer on human anatomy and a proper building in which the subject might be studied. We read of HARVEY that "he went abroad for the acquisition of medical knowledge," and this has been more or less the case with all the medical students of Oxford, in spite of the influence for a generation past of such men as ROLLESTON and HENRY ACLAND, who have tried to keep the light of anatomical science from going out altogether.

The reasons for the neglect of the study of anatomy, and especially of human anatomy, and the discouragement of it by the authorities of the university, would take more time and space for their exposition than we have to spare. It must remain a matter for wonder that one of the greatest of all subjects for study has been neglected and almost despised by a university which aims at leading the intellect of the country. There has doubtless been some fear in the theological mind with regard to the tendency of this study. But that fear was not justified by the spirit of its own medical graduates; and even if we were to allow that the tendency of anatomical study was to generate freedom of thought in theological matters, we should argue that the Church itself would have done better to ally itself with all earnest men in every department of knowledge who were in search of truth. Be this as it may, a university in which the study of man from an anatomical point of view is excluded is no longer tolerable. It is a confession of radical defect, of inability to compete with other universities, or to perceive what constitutes the very foundation of all knowledge of man. Not only should human anatomy be taught in a university, but it should be taught in the very best way possible and by the very best man available. If Oxford will really show that she appreciates her own anatomical and biological teachers she will gain a new lease of life and influence, and a new hold not only over the intellect and the philosophy of the time, but over the religion of the nation, and a surer one than that on which she has hitherto relied. We feel disposed rather to congratulate her for having at length shown some perception of her duty in this matter than to criticise her for being so late in showing it. Her age does not excuse this great oversight and defect in her past teaching. The subject is as old as ARISTOTLE, and Oxford is almost unique in her neglect of it. But it is never too late to commence a neglected duty. There is no doubt that in her new departure Oxford has the sympathy of her sister universities in this attempt to recognise and to teach anatomy on a system and a scale worthy of the subject and of her own position and resources. That she has opened these buildings with such a display of earnestness and intention, in the presence of her own authorities and the representatives of medicine in the three kingdoms, is the best reply to the charge "that for the important professions she provides no training whatever." It is, however, in no narrow professional vein that we regard this new development, but with a conviction that it places the university in a right light and supplies her with a new claim to public respect and gratitude.

AT the beginning of the present year the number of registered lunatics in Scotland was 12,725; of these 5837 were males and 6888 were females. The proportion of lunatics per 100,000 of population is 314, or, in other words, there is in Scotland one insane person to every 315 inhabitants. Twenty years ago the corresponding figures were 230 lunatics per 100,000 of population, being one insane person to every 430 inhabitants. This very considerable increase in the proportion of lunatics to population has been steady in its upward progress during the past twenty years and more as shown by the statistics furnished by the Lunacy Commissioners in their report for the year 1892, of which a general summary was given in THE LANCET of Oct. 21st. It is a point of much interest to learn from the figures given[1] by the Commissioners that, whilst the proportion of private lunatics per 100,000 rose in the

[1] Appendix A. Table III.

twenty years from 39 to 47, the proportion of pauper lunatics rose in the same period from 191 to 267. Taking the increase in each class of lunatics at a percentage this rise is found to have progressed at double the rate among the pauper class as compared with the private class, the actual figures being 20 and 39·79; and this, too, while the table shows that the proportion of registered paupers per 100,000 of population has fallen from 2199 in 1873 to 1448 in 1893. The Commissioners, in the text of their report, refer to this comparatively great increase of pauper lunacy, and they state that it is not due to the registration as pauper patients of persons who would formerly have been registered as private patients. They think, and they give their reasons (mainly from statistics and information in their possession) for so thinking—"that no material increase of the transference of patients from the private to the pauper class has taken place, and that persons now registered as private patients are in the main as truly private patients, and the persons now registered as pauper patients as truly pauper patients as they have been in former years."

If, as is clear from the evidence adduced by the Commissioners, the increase is not referable to the transference of persons from the wealthier strata of society to the pauper class; and if, as we have seen, the relative proportion of paupers to population in Scotland has largely decreased, the increase must have taken place among that very large class who live more or less, in a pecuniary sense, from hand to mouth, and whose members, becoming pauperised by the accession of insanity, are placed upon the register as paupers. This class has a very extensive range in the social scale, stretching, as it does, from the almost pauper to the almost wealthy or well-to-do. The Commissioners point out that the patients who can most truly be said to occupy a debatable ground between that of patients registered as "private" patients and that of patients registered as "paupers" are those patients, registered as paupers, the cost of whose maintenance is entirely repaid to parishes from private sources.

When dealing with the question of lunacy in England and Wales in THE LANCET of July 22nd last, we referred to the anomaly of lunatics being registered as paupers when the cost of their maintenance was reimbursed by relatives. The Commissioners for Scotland fully recognise the difficulties surrounding this question, and their remarks upon it are clear and to the point. They refer to the seeming hardship "that the relatives of a patient, whether legally liable for his maintenance or not, who struggle to prevent him from being a burden to the ratepayer, and who, with this object, pay a sum which provides sufficiently for his wants, are unable to attain this end without reducing him to nominal pauperism." They further point out that "the real difficulties arise in the more common case of lunatics, who are nominally in the position of pauper patients, but who possess available funds sufficient to maintain them for longer or shorter periods as private patients, though not sufficient to maintain them as private patients throughout life." They go on to give cases illustrative of the hardships of this position; but they point out at the same time that legal recognition is given to the difference between the position of such pauper lunatics and that of ordinary paupers. The Commissioners insist upon the radical nature of this difference in some of its aspects, and, to give an idea of the important bearing in estimating the relations between ordinary pauperism and pauper lunacy, we cannot do better than quote their words in illustration:—

"Asylum treatment for a patient not admitted as a pauper cannot at present be obtained in Scotland for an annual payment of much under £40, and even at that figure the amount of accommodation is limited. To maintain a man, therefore, during life as a private patient in an asylum at the lowest available rate would require the interest of a sum of at least £1100 or £1200; or, to put it otherwise, in order to maintain an insane wife or child at the lowest asylum rate as a private patient, a sum would be required equal to the year's earnings of many an able-bodied labourer, or to more than half the year's earnings of a skilled workman. The area of population from which pauper lunatics are drawn is thus greatly wider than that in which ordinary pauperism occurs. It includes not only the poorest class, but also the able-bodied labourer, the skilled mechanic, the small tradesman, the small farmer, and the small employer of labour."

The question is one that affects those who pay county rates as well as those who pay poor rates, although their interests do not always run parallel in the matter. By reducing their maintenance rate to the lowest limit, chartered and district asylums are reported to be doing much to lessen evils for which admittedly there is at present no complete remedy—evils which in themselves go to show how unlike other diseases insanity is in its social environments and consequences.

Another subject upon which the Commissioners dwell at some length is that of the boarding-out system, and they claim for Scotland the peculiarity of being the only country where every lunatic, whose maintenance is contributed to from public sources, is under the direct supervision of the central authority. The number of pauper lunatics in private dwellings increased during the year 1892 from 2435 to 2519, and it is stated that parochial authorities are becoming more and more convinced of the propriety of removing patients from asylums after they have ceased to require asylum treatment either in their own interest or in that of the public. The plan of caring for the insane poor in private dwellings in Scotland is not now an experiment; it has become an integral, and by no means the least successful, part of the lunacy system of the country. Our summary of the Commissioners' report which was published in THE LANCET last week will suffice to show that a highly creditable measure of success may fairly be claimed for the year's work done in Scottish Asylums. With the increase of lunacy throughout the country and in all ranks of life there necessarily arise increased requirements with a view to securing not only such a disposal and distribution of the insane as may be most advantageous for them, but also such an adjustment of parochial and fiscal interests as may be fair and reasonable. In this relation the experience and opinion of the Lunacy Commissioners for Scotland, as set forth in this report, are invaluable.

ATTACKS of cholera or of choleraic diarrhœa have now become very isolated occurrences in this country, and there is a very natural tendency to regard the risk of any extension of cholera in England as a contingency that has passed away for this year. We hope—indeed, we believe—that this is so;

but, on the other hand, we have no right to be assured of this. Climate certainly influences cholera, and where sanitary circumstances are reasonably good, cold, and especially cold and dry weather, has a powerful effect in controlling the disease. The places in which cholera is maintained during cold weather are probably those in which the infection has made its way into a soil infiltrated with filth, and those in which a public water-supply has become infected. Instances of cholera prevalence on a substantial scale are known of during cold winter weather under both of the circumstances we have named. We probably have not many places where soil-pollution is a very dangerous factor, but we cannot say that we are free from them; indeed, there are reasons for regarding Grimsby, with its tide-locked sewerage system, as bordering very closely on the soil condition favourable to such maintenance of infection. And even if in such places the disease is not maintained during cold weather, such a soil affords a favourable medium for the storing up of an infection lying dormant. Then, again, as to water-supplies, we should have but little difficulty in pointing to places where town services are derived from rivers, from gathering grounds, and from sheets of water which are notoriously polluted by sewage or by filth of an allied sort; and if the pollution of cholera were received into such waters no one can foretell the precise circumstances of a coming winter which would prevent an outbreak of cholera.

We refer to these points because we wish to urge that the favourable issue of this year's cholera prevalence should not, under any circumstances, be allowed to lead individuals or sanitary authorities to take up an attitude of indolence with regard to the sanitary conditions for which they are responsible. On the contrary, there are grounds for fearing that, even if the winter passes without any material spread of the disease, the infection may remain with us, that it may lie dormant here and there, and that apparently trivial diarrhœal attacks may form a link of connexion between a cholera outbreak of one year and the disease of the next year. The truth is that never since 1866, or perhaps even then, have we had so many elements of danger as regards the distribution of cholera as we have had this year, and it is notorious that apart from an epidemic that is on the wane, a first year's prevalence in a given country is by no means the greatest danger to be guarded against. The coming winter should, therefore, be utilised in many ways. Individuals should have their houses placed in proper order. Cisterns should be cleansed, separate ones should be provided for water-closets, and those used for drinking and domestic purposes should be so placed and arranged that their contents cannot become fouled. Where possible, constant services of water should be laid on and all domestic supplies should be derived directly from the mains. Drains should be tested, all house-drains should have adequate means of ventilation, rain-pipes to houses should not serve as sewer ventilators, and sink-pipes &c. should be disconnected so as to discharge in the open. Accumulations of house refuse should be avoided; all receptacles should be movable, and they should be of such size as not to admit of many days' contents. No system of excrement removal other than the water-closet should be maintained which does not secure real dryness of the contents of the closet, with removal at the shortest possible intervals of separate pails for excreta, and wherever any such system causes a nuisance it should be dealt with. These and other similar matters should engage the attention of householders.

Coming next to sanitary authorities, there will be more than enough to do for many of them. All faults needing the action of individual householders should be sought out by them, and house-to-house visitations, with careful record of the conditions found, should be generally instituted for this purpose. Drains and sewers causing nuisance or offensive effluvia should be dealt with; scavenging of house refuse, privies &c. should be undertaken by the authorities themselves and not be relegated to contractors, whose first thought is too apt to be one of money-making by the transaction; but, above all, there should be everywhere a careful investigation of water-supplies. Gathering grounds should be inspected in order to ascertain the chance of sewage reaching the supplies, and as to the character of manures being used on their surface; sheets of water such as "broads" should be carefully looked to in order to see if sewage or washings from fields manured with excreta obtain access to the water; wells should be examined as to exclusion of surface water, and river supplies should be inspected. The mere knowledge of the actual circumstances which exist will be invaluable, even if a final remedy is not at the moment available. We have had a serious warning this year. Many places, in the north of England especially, are suffering seriously now from typhoid fever, and this means that the inhabitants are receiving the poison either through excrementally polluted water or excrementally polluted air. These are the places in which the greatest danger will lie, and in these places especially the period of winter should be utilised in the manner we have indicated.

Annotations.

"Ne quid nimis."

THE ILLNESS OF SIR ANDREW CLARK.

THE illness of Sir Andrew Clark is a public event. It has been evident from its earliest announcement that the public have recognised it as such, and have been as earnest as we are, and as the whole medical profession is, in hoping that the President of the Royal College of Physicians will speedily be on the high road to recovery. Men become public characters from one cause or from another, and not seldom it is difficult to understand why a particular individual has attained to prominence. But there has never been a public man about whose right to his distinguished position there can be less argument than Sir Andrew Clark. He is the official head of his profession, and it is no disparagement to his illustrious predecessors in the chair to say that no president has ever displayed more absolute fitness for the post. His place in public favour as a consultant has rarely been surpassed, and he is known to be the personal friend as well as the professional adviser of many of our most distinguished citizens. The skill, broad sympathies, and true humanity that have placed him in this position would of themselves have been sufficient to make him a public man. It is no wonder, then, that a wide and deep sensation has been produced by the terribly abrupt interruption that has taken place in his work, and that good tidings are anxiously awaited. In response to this anxiety we are glad to be able to inform the profession that on the whole there has been during the week a little improvement

Sir Andrew Clark's illness began suddenly on Thursday morning last, the 19th inst., in his study in the course of his morning's work. This was the day after the Harveian Oration at the Royal College of Physicians, where, as was unprecedented with him, he was late, having mistaken the hour. This circumstance, it was noticed, gave him much annoyance. The attack was of the nature of right hemiplegia, with aphasia. He very quickly recovered consciousness to a certain extent, and has improved in this direction, and with an effort can now make himself understood. However, we regret to say that the paralysis of both arm and leg remains quite complete and that the speech is still very disordered. We sincerely trust that we may soon learn that these grave symptoms have undergone abatement, but for the present we must be content to know that he is ministered to night and day, not only by those who have supported him so well at home in his unresting career, but by distinguished Fellows of his own College, who may be trusted to do for him whatever can be done.

DIFFUSION OF SMALL-POX.

THE returns of small-pox for last week show several very considerable outbreaks. In Bradford over seventy fresh attacks took place, and although it has been supposed that the spread has been the result of the exposure to infection which took place when the temporary hospital was burnt down, it hardly seems likely that the present diffusion can all be set down to this cause. Bradford has a small-pox hospital which professedly consumes all outgoing air. It would be interesting to know whether this destruction of infected air really takes place, and if the distribution of the small-pox has any relation to the situation of this hospital. Walsall is another place which is suffering from a serious extension of the disease, 60 fresh attacks having taken place in one week. Next comes Birmingham, with 30 new cases; Wakefield has 7, Aston Manor 6, West Ham 5, Dewsbury 3, and other places have smaller numbers. In Leicester only one fresh attack was recorded. In London 13 new cases came under notice last week, and 73 patients were under isolation by the Metropolitan Asylums Board on the 23rd inst.

A PROGRESSIVE DECREASE OF CRIME.

IT is highly satisfactory to learn, on such reliable authority as that of the latest report issued by the directors of convict prisons, that serious crime is steadily decreasing throughout the country. This fact, moreover, is doubly interesting in view of the rather confusing fluctuations recorded in our issue of Oct. 14th. Happily a reference to statistics leaves us in no doubt upon the subject. Thus we find that during the five years ending in 1859, when the population of England and Wales was 19,257,000, the sentences to penal servitude numbered 2589. The years 1885–89 showed the much lower total of 945, the population then being 27,830,179. Since that period a further decrease has been registered. There has also been a remarkable reduction in the number of young convicts. Even as lately as 1887 it stood at 3·2 per cent. of the whole prison population. Last year it was 1·2 per cent. These observations agree with a statement that the diminution in the whole amount of imprisoned criminality is mainly attributable to a decrease in the number of young offenders, the proportion of older delinquents having increased. No doubt this result is due in great measure to the steady growth of a tendency to substitute for imprisonment, in the case of young persons, the discipline of reformatory schools. The wisdom of this course can hardly fail to commend itself. Corrective rather than repressive, it embodies the essence of curative treatment as applied to crime, while its effect is not usually, at least in this country, nullified by its leniency. The substitution of fines for imprisonment, the conditional liberation of first offenders, and the abolition in many cases of imprisonment for debt are measures of a like tendency, agreed in their purpose of obviating as far as possible the necessary evils of prison life. During the past year the health of the convicts has been very good, as shown by a death-rate of only 9·1 per 1000.

FEMALE SANITARY INSPECTORS.

WE note that the vestry of Kensington has appointed two ladies to be sanitary inspectors in their district. It is intended, we understand, to employ them for the inspection of workshops in which women are employed, and we do not doubt that they will be found to be well suited for this purpose. The Manchester town council has during recent times availed itself largely of the services of women, but not actually as sanitary inspectors. They visit houses in which cases of infectious disease have occurred and advise as to the precautions which should be taken when the sick are retained at home, and in this way exercise a useful influence. We hope to hear of success attending the Kensington appointments, and it may be expected, after some experience has been gained of the employment of women in London in this capacity, that the example of Kensington will be followed by other authorities.

THE FIRST ITALIAN INSTITUTION FOR IDIOTS.

THE appalling frequency of "reati di sangue" in Italy—that is of "crimes of blood," ranging from cutting and wounding to homicide and murder itself—is explained by a multitude of causes—for instance, by the abolition of capital punishment; by the "verdicts of the heart," in which juries, overcome by impassioned appeals to clemency, either acquit the accused or find him more sinned against than sinning, and recommend him to mercy accordingly; by the "southern blood" which makes a resort to the knife an almost instinctive act on the slightest provocation; and by the universal carrying of the knife itself, in violation of stringent laws against the practice. All these contribute in their several ways to account for the fact that by the knife alone five thousand Italians are done to death every year; but there is another explanation of the phenomenon which has hitherto been overlooked. Our readers may not have forgotten the interesting discussion in the Anthropological Section of the British Association in 1892 when Dr. Clouston touched on "epileptic explosion" as a frequent cause of homicide—a cause, moreover, deserving more consideration than the law seemed disposed to give it. These sudden outbursts of the murderous spirit are by no means unknown in England, where the epileptic and the imbecile are so carefully segregated from the community and placed under surveillance. What must be the state of affairs in Italy where, to say nothing of epileptics, for whom no systematic provision is made, there are no fewer than 25,000 idiots and imbeciles, of whom only 1 in 20 are safeguarded in institutions specially provided for them! These "strangely visited people" are allowed to be at large to be mocked at in public by school-children, to fill with apprehension the better informed, who often see them entrusted with semi-responsible duties, acting as parcel carriers in the cities, or as "scarecrows" in the fields. Explosions of temper, often extremely violent and even homicidal in character, are quite common among them, insomuch that (to quote Professor Verga to whom we owe the above statistics) they form "il maggiore contingente delle case di correzione e delle prigioni" (the largest contingent of the houses of correction and of the prisons). To remove this source of crime in Italy has been engaging the professional and philanthropic public in Lombardy—herself a considerable sufferer from the barbarous custom of allowing the idiot and imbecile to be at large. At the instance of Professor Gonnelli-Cioni, who has been

working in the cause since 1839, an institution, the first of its kind, was opened for the safeguarding, the educating, and, where practical, the improving not only of the congenitally weak-minded, but also of those who from accident have had their mental growth retarded. This institution had its seat at Chiavari, and so great was its success that authorities like Lombroso, Mano, Gilforti, Verga, and Mazzocchi encouraged him to extend the undertaking and to adapt his institution for the reception and treatment of such patients in larger numbers and with increased resources. Accordingly, aided by the public-spirited, professional and lay philanthropists of Lombardy, the modest institution of Chiavari has developed into the commodious and fully-appointed establishment of Vercurago, where weak-minded children of both sexes, kept strictly apart, receive an education at once physical, physiological, and practical, by which their defects are, as far as possible, overcome or mitigated, and by which, where practicable, they are taught handicrafts of a humble but useful kind, enabling them to be breadwinners or contributors to their own maintenance. We in the British Isles, where such excellent asylums as, for instance, that of Earlswood, the Baldovan Institution at Dundee, and the Stewart Hospital near Dublin, have long been recognised as "havens of rescue," can hardly appreciate the importance attached in Italy to such a novel initiative as that of Professor Gonnelli-Cioni. Lombardy alone contributes 5000 out of the 25,000 "frenastenici" stated by Professor Verga to be now existing in Italy; and severely as she is visited by this type of disease she has had the enlightened energy, as she certainly possesses the means, to provide the palliative for it, and ere long, we hope, the remedy.

CORPORAL PUNISHMENT IN SCHOOLS.

AFTER considerable experience of childish misbehaviour and of moral and physical methods of chastisement public opinion as represented upon the School Board has arrived at the decision that corporal punishment may be administered by duly qualified and prudent schoolmasters. Though we do not admit that corporal punishment is at all indispensable to the educational armamentarium, yet as long as juvenile human nature continues to be what it is we may expect that its instincts and inclinations will in a great many cases prove to be too strong and wayward for mere moral suasion. We find this wilful tendency even among the educated and in the adult. To expect more self-control or more intelligence in children would be unwarranted presumption. We can, therefore, support unreservedly the very moderate motion passed at a recent meeting of the London School Board—namely, that head teachers should be allowed to administer punishment when necessary and also to transfer the right in respect of "slight" punishment to properly qualified assistants. Without an arrangement of this kind the authority of a teacher is limited to mere remonstrance, a means of control which many children would not understand, and which others of them would laugh at. If teachers are appointed to maintain discipline we must in reason and in very decency trust them. We should, for our own part, wish to have some definite interpretation of the term "slight punishment." We presume that it would be merely a punishment sufficient for its intended purpose. Floggings, in the ordinary sense of the term, such as were common in the time of Nicholas Nickleby, are now, of course, utterly unheard of in the days of the enlightened and highly trained teachers into whose care the education of the "rising generation" is entrusted. Such forms of maintaining school discipline excite as much contempt in the mind of the present-day schoolmaster as the proposal to bleed a patient suffering from typhoid fever would do in the mind of the present-day physician. Some other information on the subject of methods is in any case desirable, but we imagine that there need be little doubt that schoolmasters, having now more though not unqualified liberty in the matter, will use discretion in the choice of time, means, and points of application.

THE FUTURE OF WORTHING.

IN the best interests of Worthing it is to be hoped that its ratepayers duly appreciate the importance attaching to the selection of town councillors which they will have to make at the election next week. The near future of Worthing entirely depends upon the complete restoration of public confidence in its drainage and water-supply. It will, therefore, be simply suicidal on the part of the ratepayers of the town if they miss the opportunity of this coming election to return none but candidates who pledge themselves to prompt and unhesitating support of such action as will command complete confidence in these two essentials of a successful watering-place. The true history of the causation of the recent epidemic has yet to be written, although its immediate cause may now be said to be an open secret. It is clear, however, and admitted on all sides, that nothing short of a new water-supply and of a new sewerage system will satisfy the clients upon whose support the future prosperity of Worthing depends. It only remains, therefore, to do this work thoroughly, efficiently, and without the unnecessary loss of a single day. This is what the successful candidates at the Worthing municipal election next week should be pledged to promote. The present election is fraught with momentous importance to the welfare of the town, and if the present opportunity of strengthening the town council from a sanitary point of view be missed, the return of prosperity to the town may be indefinitely delayed.

NURSING THE SICK POOR IN SCOTLAND.

THE address delivered by Lord Reay at Dundee on the 19th inst. in connexion with the fourth anniversary of the Dundee Sick Poor Nursing Society gave expression to some views universally characteristic of the place and the audience, and which deserve, not alone on that account, to be seriously considered elsewhere. Thus the strong antipathy which the speaker expressed for the institution of nursing sisterhoods was an eminently Scottish sentiment. The idea of disciplined coöperation which has become exceedingly popular of late among English people, and especially among such as hold pronounced religious views, is one which, in the name of his Scottish audience, Lord Reay very pointedly repudiated. Some discipline and some responsibility there must, of course, be if any number of men or women propose to coöperate for a common end; and, so far as the discipline subserves this purpose, we presume that it would be tolerated, and indeed approved, no less in Scotland than elsewhere. Perhaps the best way to make clear the position which has been taken up at Dundee is to quote Lord Reay's words. He is reported to have said that "people interested in remedial measures for the sick had always felt that in Scotland they had a disadvantage in not having sisterhoods to look after the sick. It was quite clear that they could not accept the principle of sisterhood, but they certainly could admit that the devotion of those who joined sisterhoods was in the highest degree praiseworthy and their work beneficent where it was in accordance with the convictions of the surrounding people. The problem they had before them in Scotland was to attain the results attained by sisterhoods in other countries, because they could not abandon the principle which had always been true to them, and which he hoped would never be weakened—viz., that individual liberty and absolute self-control should not be relaxed. There was no reason to feel less

confidence in nurses who were absolutely free agents, whose individuality had not been absorbed, who had had adequate professional training, and whose capacity had been carefully ascertained, as was the case in their Association." It will be interesting to observe with what measure of success the Scottish nurses will discharge the duty confided to their hands; we are, indeed, quite prepared to learn that they are in all respects equal to their duties. There is no doubt that the religious association affords an additional guarantee of character and an additional pledge of good conduct so far as that consists in conformity to conventional rules; but, on the other hand, the work of nursing the poor in their own homes is one that calls in an unusual degree for the exercise of originality and ingenuity in devising makeshift arrangements and of that general authority which is the natural accompaniment of an independent spirit. In circumstances like these, where cleverness and personal weight count for so much, we should expect the "free agents," whom Lord Reay esteems so highly, to show to their best advantage, and, given the indispensable preliminaries of adequate professional training and ascertained capacity, we should concur with our Scottish friends in confidently expecting from the staff of the Dundee Sick Poor Nursing Society the very best possible achievements in their philanthropic and eminently useful work.

THE LATE LORD VIVIAN.

THE world of diplomacy and *la haute politique* lose an interesting, an able, and a universally popular personality in the British Ambassador at the Court of the Quirinal. Lord Vivian succumbed after a short illness to double pneumonia, due to a chill caught last week from the keen "tramontana" or north-east wind that swept the Italian peninsula. He had for years, however, been suffering from stenosis of the œsophagus, which, though never removed, had been, with some measure of success, alleviated by Dr. Durante, Professor of Clinical Surgery in the University of Rome. The patient's system, however, long enfeebled by the almost artificial alimentation to which it had been subjected, could not respond to the demand made upon it by the last severe lung attack, which, in spite of every effort on the part of Dr. Guido Baccelli, ended fatally on the morning of the 21st inst. Lord Vivian's presence was missed at the naval festivities at Taranto and also at the inauguration of the Red Cross Exhibition, in which, true to the spirit, at once humane and enlightened, that inspired all his actions, he had taken quite a personal interest.

INAUGURAL LECTURE AT ST. VINCENT'S HOSPITAL, DUBLIN.

DR. MICHAEL COX, in opening the session of 1893–94 at St. Vincent's Hospital, Dublin, was very eloquent, learned, and happy in his remarks. Alluding to the new extension of the curriculum, he pointed out that medicine in Ireland had not yet reached the position to which it had attained in the school of Salerno in the thirteenth century, when Frederick II. of Germany compelled the students to study their art for a period of five years, preceded by a three years' course of logic. It is no matter for marvel that Salerno of old competed with Salamanca and Montpellier for pre-eminence among the medical schools of the world. Over the ancient physicians of his country—the O'Leas, who were apothecaries to the O'Flahertys; the O'Cassidys, who controlled the pulses of the Maguires; the Macdunlevys, who were for centuries family physicians to the O'Donnells; the somewhat infamous Thomas Smyth, who laid the foundation of Trinity College; Robert Boyle, "the father of chemistry and the son of the Earl of Cork"; and Owen O'Sheil, "the eagle of physicians," Dr. Cox grew humorous; but here and there a patriotic touch peeped out in his jesting, and we may take it for granted that, while he allowed himself to poke fun at his eminent forerunners, he would not have sanctioned such levity from other people. He concluded with the following eloquent tribute to the memory of Surgeon-Major Thomas Heazle Parke: "One," he said, "who, tried by sickness and suffering, in famine and in fever, was ever constant to duty and honour; one who, whether amid the gloom of impenetrable forests or in the glamour of the gilded *salon*, was ever the same—modest, faithful, chivalrous; a very Galahad, whose praise while living all have spoken, and who deserves as his epitaph the motto granted by a grateful French king in days gone by to his Irish body-guard, 'Semper et ubique fidelis.'"

TREPHINING FOR HÆMORRHAGE.

IN the *Philadelphia Medical News* Dr. Emmett Giffen briefly records a case of successful relief of traumatic meningeal hæmorrhage. The patient was a Russian, who was struck with an axe on the right side of the head, above the ear and to the front, about the junction of the temporal, parietal, and frontal bones. On the next day his right pupil was dilated, he was dazed, and his pulse was 40 and irregular. During the night he was said to have had "spasms" of the left arm and leg. These were then paralysed, and the limbs on the right side were also becoming affected. A piece of bone was removed over the arm and leg centres, and a large clot was found, the result of an injury to the middle meningeal artery by a spicule of bone from a depressed fracture. The result was brilliant, in spite of the almost incredibly filthy condition of the hut in which the operation had to be done, and in two weeks' time the patient was able to be present and give evidence at the trial of the man who had injured him.

MILK.

PROBABLY the medical profession alone properly realises the importance of milk. All the world knows that puddings are largely made of it, and most persons use it in their tea; but to the medical practitioner its importance is paramount in many directions. It is the staple food of his most sensitive patients—children; it is the chief constituent of, and often the only nutrient element in, many of his therapeutic dietaries; it is probably the vehicle for the transmission of more than one specific microbe; and it is the subject of by far the greater part of the actions taken under Acts for the regulation of the sale of food. In this connexion the figures in the annual report made by their public analyst, and published by the vestry of the parish of St. George, Hanover-square, become very interesting. Of 361 samples of food stuffs submitted by him to analysis during the year 213, or more than 60 per cent. of the whole, were specimens of milk foods. Of these, 153 were presumably specimens of pure milk, and 112 of them were pronounced to be genuine, 12 inferior, and 29 adulterated. Of the 29 adulterated specimens, 14 had been treated with a boric acid preservative, and the remainder had suffered either from the addition of water or the abstraction of fat, or both. No more subtle methods of sophistication had been attempted. To one of the very clear and concise tables from which these figures have been taken we are tempted to make further reference, because the figures seem to point to a marked improvement in the condition of London milk. The table sets out the results of the analyses of milk made at the instance of the St. George's vestry between the years 1886 and 1893 inclusive, and comparison of the figures set down under the extreme dates is very instructive. In 1886–87 the following percentage results were obtained from milk analysis: genuine, 20·8; adulterated, 58·4; inferior, 20·8. In 1892–93 the 153 specimens give the following percentage figures: genuine, 73·2; adulterated 18·9; inferior, 7·8.

That is to say, that in the short space of six years the condition of things has almost exactly turned round, and whereas—to speak roughly—in 1886 three-quarters of the milk examined was bad, in 1893 three-quarters of it is good. Having in view the importance of the condition of milk to the medical profession, we find these figures satisfactory and of excellent omen.

ALLEGED MANURE NUISANCES.

BEFORE the Court of Session in Edinburgh the Lord Advocate, at the instance of the War Office, has raised an action against the North British Railway Company and a farmer at Glencorse, to interdict them from conveying town manure to the Glencorse Railway Station and unloading it there. Military barracks are situated opposite the station, and the high road is less than fifty yards from it. The local medical officer of health is of opinion that facts point to the manure as having caused, in 1890, one case of enteric fever and another of diphtheria in the barracks. The brigade-surgeon reports that the traffic caused serious illness in his own family. Offensive smells are also complained of. The railway company have lodged answers, in which they state that under their own Act they are bound to provide trucks and convey manure belonging to the magistrates and town council of Edinburgh, that they act merely as haulers, having no choice in the matter, and having nothing to do with loading or unloading. They deny also that the traffic is a nuisance or injurious to health. The farmer pleads that the manure, having been regularly and timely removed, no nuisance in law exists or has ever been caused by him, and he denies that noxious and offensive smells reach the barracks, or that disease germs are carried to the inmates. It is expected that counsel will be heard at an early date.

PHYSIOLOGICAL AND PATHOLOGICAL PROPORTIONS OF UREA.

FOR some years Dr. Kache has been making observations as to the varying proportions of the total amount of urea excreted daily to the total amount of urine passed, hoping thereby to obtain relative curves which might prove to be of importance in the diagnosis and prognosis in certain diseases, especially in the specific fevers and those of malarial type. His conclusions[1] may be summarised as follows: Apart from the well-known increase of urea in febrile conditions generally, it is impossible to formulate any particular proportion in which this increase occurs. The variations which occur do not seem to possess any practical value in the treatment of the affection. On the other hand, a comparison between the amount of urea found in the urine and the actual quantity of urine passed presents many points of interest. If these quantities are expressed graphically in curves, in the physiological state, there is a close parallelism between the two curves, whilst in febrile conditions, of whatever type, the urine curve during the period of fever is always lower than that of the urea, whilst at the period of crisis and during convalescence the curves are very different. In patients suffering from fever of a non-infectious type the urine curve is inferior to the urea during the febrile period, mounts up as the temperature falls, and gradually assumes the physiological condition. In patients suffering from yellow fever the urine curve remains constantly below that of the urea, and even several days after all fever has subsided. In those forms of febrile attacks so frequently met with in the tropics, characterised by suddenness of onset, acute gastric symptoms, profuse sweats, and usually rapid recovery, the urine curve is lower than the urea whilst the temperature is high, rises above it for two or three days after defervescence has occurred, and then continues to rise for another four or five days, departing more and more from the normal course; thus exhibiting in all such cases a very considerable difference between the two curves, partly on account of the relatively large quantity of urine passed and partly on account of the relatively small amount of urea secreted. From these facts it will be seen that there is a marked difference between this type of fever, which Dr. Kache terms "telluric," and yellow fever in regard to the relative proportions of urine and urea, which confirms the opinion generally held that yellow fever should not be regarded as of malarial origin.

[1] L'Union Médicale, Oct. 10th, 1893.

THE CHARGES OF CRUELTY AT CHESTER.

WE have rarely come across a more revolting case of brutality than was disclosed at the recent Cheshire quarter sessions. Daniel and Constance Phelan, man and wife, of independent means, were indicted for having ill-treated their infant children, aged three years and twenty-one months respectively, in a manner likely to cause them unnecessary suffering. To treat children of such tender age, as was proved by the prosecution, by beating them with a strap, lifting them by the hair of the head, and forcibly thrusting castor oil, spoon and all, down the throat shows that the parents must have been devoid of all parental instinct and feeling. Such fiendish conduct far exceeded the severity of the Spartan age, without the palliation of the Spartan motive. It was urged by the defence that the evidence was malignantly false and that, coming mainly from servants, it was not trustworthy. Allowing for a moment that the witnesses may have been led into unconscious exaggeration—and we do not say they were,—there was a basis of fact more than sufficient to warrant the indictment and the conviction. It was not a solitary instance of excessive punishment under uncontrollable passion, but a steadily maintained and continuous course of ill-usage. The prisoners will have purged their legal offence at the end of their allotted term of hard labour, but their moral stain must ever remain. The character and feeling of such inhuman wretches are not likely to be softened by their ignoble punishment (would that they might be); consequently it is difficult to think of the future infantile life of the little victims without a shudder if they are to be restored to the care of their unnatural parents in less than a year. We trust that some means will be found to safeguard them against further ill-usage.

SCARLET FEVER AT CHRIST'S HOSPITAL.

THERE has been a sudden and serious outbreak of scarlet fever at Christ's Hospital. The first cases occurred on Oct. 9th, when in twenty-four hours six boys, of different ages and resident in different parts of the institution, were attacked. Between Oct. 17th and Oct. 21st some eight or nine more cases occurred. The resident medical officer of the school, Dr. Alder Smith, immediately upon the outbreak advised that a circular notice should be sent to all the parents stating what had occurred, and leaving with them the responsibility of deciding about the removal of their children. The question of the withdrawal of a child under such circumstances is one in which the parents ought to a certain extent to have their way. To some parents the idea of leaving a child within a measurable distance of scarlet fever seems much more terrible than to others; while some boys being members of a large family would be very unwelcome guests at home. On Tuesday last, however, the matter assumed a more serious form. Dr. Sedgwick Saunders, the medical officer of health and public analyst for the City of London, at a meeting of the City Commissioners of Sewers, reported that serious defects in the drainage of Christ's Hospital had been discovered which might account for the outbreak, adding that he felt bound to say that the sanitary condition of the buildings rendered their further use for residential purposes absolutely impossible. As a result the authorities have decided to close the school at the end of this week and dismiss the boys to their homes,

but only those boys will be allowed to leave who are in indubitably good and robust health. The remainder will, of course, stay on the premises, concerning whose sanitary condition Dr. Sedgwick Saunders has been obliged to express himself so strongly. This is unfortunately a necessary precaution against a wide spread of the disease from the school as a focus, but it is to be hoped that the period of probation will be made as brief for these lads as is compatible with its object.

DEATH AT HOCKEY.

WHAT is believed to be the first fatal accident at hockey occurred on Saturday last during the progress of a match between two suburban teams. The cause of death appears to have been a violent blow over the heart from a ball struck with great violence at a very short range. No one can accuse us in these pages of taking up an unduly soft or effeminate attitude towards athletics—their dangers and their compensating advantages—and for that very reason we always deeply regret to hear of these untoward circumstances. They confirm the timid view, which we believe to be in general the wrong view. Many an eye has been lost at rackets, and cricket can claim its share of nasty injuries to its votaries. But the total roll of disaster from these sports is very short when we consider the enormous numbers of the players. With football we think the position is a little different. The number of injuries is out of proportion to the number of persons who play, and their severity has been attested by the not infrequent loss of life. We do not suppose that hockey, hitherto considered the safest of pastimes and daily becoming more popular, will be classed at once as a dangerous game because of this melancholy occurrence; but as this is possible one question occurs to us, Is it too late to alter the rules? The rules of football have been modified more than once—and we are happy to say with practical success—to obviate danger, and the resulting game is no worse for its comparative humanity. Would it altogether spoil hockey to play it—as it used to be played—with a lighter ball? As long as an ordinary cricket-ball is employed the risk of a repetition of Saturday's tragedy remains.

TREATMENT OF CHOREA.

IN a paper recently read by Dr. Eskridge before the Colorado State Medical Society, and more lately published in the *Philadelphia Medical News*, particular reference was made to the treatment of chorea on a plan which he states to be most successful. In all except the very mildest cases absolute rest in bed night and day is insisted upon. The patient is ordered as many grains of antipyrine as he numbers years three times daily after food, the dose being increased by one grain each day until all movements have ceased. Fowler's solution is then given in doses of one minim well diluted in water after each meal, the dose here also being daily increased by one minim until the point of tolerance is reached. About the second or third day after the arsenical treatment has been added the antipyrine is given only once in each twenty-four hours, usually between 8 P.M. and 9 P.M. After all but the most occasional twitching has stopped the antipyrine is discontinued, and iodide of iron is given with arsenic. It is also recommended that the arsenic should be continued a month after all choreic symptoms have ceased. A nutritious, digestible, and non-stimulating diet is recommended, and it is claimed that this treatment, heroic as it may seem, is unattended with danger unless the temperature is raised or cardiac weakness be present. Valvular disease is said to be not necessarily a contraindication to the free administration of antipyrine, but cardiac dilatation is prohibitive of its use. Dr. Eskridge gives details of a few cases treated on his plan, and these so far seem to bear out his statements; but chorea is a peculiarly variable disease in its reactions to drugs. It would be interesting to know whether this method of treatment has failed in an ordinarily severe case.

PROFESSOR HAMILTON ON THE PROGRESS OF PATHOLOGY.

ONE of the most interesting of the introductory lectures given at the opening of this session was that which Professor D. J. Hamilton delivered to his class of pathology at Aberdeen University. In it he reviewed some of the recent acquisitions to knowledge in this department of medical science and pointed out with some truth how the pendulum of pathological thought was swinging back in the direction of "humoralism," but with a wider insight into the scope and meaning of that doctrine. He commenced by referring to the thyroid gland and the treatment of myxœdema which has resulted from pathological research into the nature and affinities of that remarkable affection. Next he took up the subject of pancreatic diabetes which arose in the discovery that excision of the pancreas made animals diabetic. Still, he said, it must not be supposed that glycosuria and diabetes are not also produced by other factors than those in which this gland is supposed to share. The bulk of his lecture was, however, occupied with the question of immunity from disease—the subject which is perhaps, more than any other, engaging the attention of experimental pathologists to-day. The new discoveries in the direction of "serum therapeutics," and, in particular, the work that has been done upon the toxine and anti-toxine of tetanus, were shown to be promising of good results, not merely in the treatment of that grave malady, but in that of others which are caused by analogous agencies.

FOREIGN UNIVERSITY INTELLIGENCE.

Amsterdam.—Dr. Graanboom has been recognised as *privat-docent* in Children's Diseases.

Bonn.—Professor Karl Finkelnburg has obtained leave of prolonged absence on account of his health.

Cracow.—Dr. T. Skroczynski has been recognised as *privat-docent* in Ophthalmology.

Kazan.—Dr. O. A. Rustitski of Kieff has been appointed Extraordinary Professor of Surgery.

Kharkoff.—Dr. Leonhard Hirschmann, Professor of Ophthalmology, has become Emeritus Professor. Dr. Open Khovski, Extraordinary Professor, has been appointed to the Professorship of Clinical Therapeutics. Dr. N. Kulchitski has been promoted to the Chair of Histology and Embryology.

Kieff.—Dr. L. Malinovski of Kazan has been appointed to the Chair of Clinical Surgery.

Naples.—Dr. E. De Renzi has been appointed to succeed the late Professor Cantani as Director of the First Medical Clinic, and Dr. Antonio Cardarelli has been appointed to succeed Dr. De Renzi in the chair of Medical Pathology.

St. Petersburg (Military Medical Academy).—Dr. F. Pasternatski has been promoted to be Ordinary Professor of Clinical Therapeutics.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Étienne Michele van Kempen, one of the oldest of Belgian physiologists, his researches dating from before 1812. Among the most important of his published papers may be mentioned "Expériences Physiologiques sur la Transmission de la Sensibilité et du Mouvement dans la Moëlle Spinale" (1858) and "Nouvelles Recherches sur la Nature Fonctionnelle des Racines du Nerf Pneumogastrique et du Nerf Spinal" (1862).—Dr. Léon Lefort, Professor of Clinical Surgery in Paris.—Dr. W. B. Towles, formerly Professor of Anatomy at the Univer-

sity of Vermont.—Dr. Falk, Extraordinary Professor of the History of Medicine and Forensic Medicine in Berlin.

MR. JOHN REES WITHECOMBE, late surgeon in the service of the East India Company, was on Tuesday last installed as Master of the Apothecaries' Society. After divine service in St. Anne's Church, at which the Rev. Clementi-Smith, the Chaplain of the Society, officiated, a livery dinner was held in the Hall, which was attended by, amongst others, the Past Master, Dr. Charles Taylor; Mr. R. Brudenell Carter, F.R.C.S., the representative of the Society on the General Medical Council; and Mr. J. G. Baker, F.R.S., the Botanical Lecturer.

IN his report to the City Commissioners of Sewers this week Dr. Sedgwick Saunders, the medical officer of health, whilst congratulating the Commissioners on the satisfactory state of health of the city in general, referred to the difficulty of dealing with fever cases in the metropolis, the hospitals erected for the purpose of receiving such cases being overcrowded, and unable for the present to accommodate more patients.

ON Thursday, Oct. 19th, Dr. E. B. Gray of Oxford lectured before the Phonetic Shorthand Writers' Association, London, of which body he is a vice-president, on the Work of the Brain in Shorthand Writing. Dr. W. R. Gowers, also a vice-president of the association, is to address the members on Dec. 14th, his subject being announced as Sunshine and Shorthand.

THE council of the Sanitary Institute has arranged for a series of free lectures to be delivered at the Parkes Museum, Margaret-street, London. The first of the series will be given on Nov. 2nd by Dr. Newsholme, medical officer of health of Brighton, on the subject of "Occupation and Mortality."

CHOLERA.

CURRENT NOTES, COMMENTS AND CRITICISM.

HAPPILY for humanity, widespread epidemics of cholera are of comparatively rare occurrence, and the circumstances attending them are consequently apt to be soon forgotten. Looking back on the events of 1883–84, there are several matters which are of considerable interest and worthy of consideration at the present time. During the summer and autumn of 1883 cholera appeared at Damietta, where a fair attended by 15,000 people had been recently held, at a time when the Nile was very low and almost stagnant, and the soil and surroundings were in a state of great foulness. How the disease reached Damietta is a matter of conjecture; for, assuming that it was imported from India, Damietta is altogether away from the Suez Canal and the line of traffic with that country. It seems to be probable that, if imported at all, it was introduced by some pilgrims from Mecca, where the disease had shortly before been prevalent, but as a matter of fact the exact source of importation has never been traced. The epidemic of 1883 was restricted to Egypt. The disease proceeded in a pretty straight line from Damietta to Cairo, outbreaks occurring at various places on the Nile *en route*, all of which went through very much the same kind of phenomena in nearly the same period of time that Damietta had done. Assuming that Egypt was, in 1883, the western limit of an epidemic movement from India, two interesting points may be mentioned here. Cholera, as a rule, invades the Central Provinces of India from the east, but in 1882 there was no invasion from that quarter; the disease came from the north, out of Bengal, and passed towards the south-west, rendering it highly probable that it was moving in this direction to the seaboard of Bombay, where the number of deaths from cholera had fallen in 1882 to 169. At the time, however, that cholera appeared and prevailed in Egypt and was causing such mortality—viz., in July, August and September, 1883—there were over 820 deaths from cholera in Bombay city. It is a curious and pertinent fact that, although the intercourse between this country and India, *viâ* the Suez Canal in Egypt, is out of all proportion to that of any other country, and notwithstanding that vessels came from Egypt, bringing stores, equipment and men to this country, and that cases of cholera actually occurred among troops coming from India in 1884, which troops and passengers with their baggage were disembarked in England and went to their various destinations, cholera did not break out here. The disease appeared in June, 1884, at Toulon. The *Sarthe*, *Mytho* and the *Bienhoa* had recently arrived at that port from Tonquin, and to the first-named vessel was the importation of the disease attributed, together with all the events which subsequently followed in France, Italy, Spain, and the Mediterranean, making up the epidemic of 1884. The medical history of that time being both interesting and instructive, we scarcely need apologise for referring to a few salient points for the sake of the practical lessons that can be drawn from them. In the first place, no case of cholera had occurred during the voyage on board the three vessels we have named, and in the case of the *Sarthe* the voyage occupied forty-four days. The first case in Toulon was that of a sailor on board the *Montebello*, who had not been to sea for a very long time, and had had no intercourse with the *Sarthe* or her cargo. The Darse, where the ships were anchored, was in a more or less foul state at the time, and Toulon is not at the best of times a sanitary town. Drs. Brouardel and Proust and others were unable to trace the source of importation—not that this, after all, goes for much, for the disease might have been introduced by some undetected and unsuspected means. At first the outbreak which followed in Toulon was regarded as dependent on local endemic causes; but that its true nature was really Asiatic cholera was soon recognised, and Professor Koch, who visited the city, said that the disease, once having a centre like Toulon, must spread, and he prophesied its appearance in Germany and elsewhere. Marseilles also suffered much from the epidemic about the same time, which, it was alleged, had been imported into that town from Toulon.

We now come to some interesting matters which were the subject of much contention at the time, and which seem destined to occupy a prominent place and be made the see-saw of asseveration and argument in every epidemic. Dr. Guérin read a paper at the Academy of Science and Medicine in Paris in July, 1884, in which he contended that the distinctions between the different forms of cholera, classified under different names, were purely arbitrary; that the almost simultaneous appearance of cases of cholera in different parts of Toulon and Marseilles, remote from one another, was altogether opposed to the doctrine of importation; and he contended that cases had occurred at both those places before the alleged outbreaks, but had been concealed under the name of simple cholera. It is scarcely necessary to add that Dr. Guérin illustrated the free and independent position described by John Stuart Mill of being in the glorious minority of one. But as far as Marseilles was concerned the following curious revelations were afterwards reported from that city in *The Times* of Aug. 5th, 1884. At a meeting of the Medical Committee it was ascertained that cholera had made its appearance at Marseilles in 1883, a fatal case having occurred at a hospital containing numerous other patients. The disease had a good many victims. The mayor went to the hospital, measures were taken, and to avoid panic the silence of all persons aware of the facts was solicited and secured. The medical staff, Sisters of Mercy, and a warder took an oath to divulge

nothing, and this oath was kept till the whole proceeding was made known to the Medical Committee on Aug. 4th, 1884. As has so often happened, measures were enforced to guard against an enemy that had already effected its entrance, and the difficulty was not recognised of practically legislating against a disease which may, under certain conditions, for all we know, be introduced in one year and manifest itself the following year under the influence of other conditions favourable to its development. But what we specially desire to bring out is the fact that all the measures of quarantine, which were rigidly enforced on the Continent at that time, proved to be futile and led to a vast amount of needless misery and inconvenience. The people having been thoroughly imbued with the belief that cholera is highly contagious and that contagion is the sole factor in its spread, certainly appear to have done all they could to give practical effect to their belief, for they fled from affected places and distributed themselves in all directions; and as fear is often the parent of cruelty, there were not wanting instances of sufferers from the disease having been subjected to cruel neglect. A current of fear traversed the Continent far more contagious than the contagion of cholera; and from what was described at the time as passing on the Italian and Spanish frontiers it was easy to fancy oneself back in the Middle Ages. The outcome of the whole thing was not only failure to arrest the progress of the epidemic, but the very measures taken probably tended in the opposite direction, owing to the state of alarm they created at that time, and by diverting men's minds from the only course likely to be of any good in the future—viz., the removal of those causes and conditions which are the nurseries of cholera and of epidemics generally. The *Opinione*, published at Rome, in August of that year might well point out that, "notwithstanding the Chinese wall with which she [Italy] has surrounded herself as a guarantee against the invasion of cholera, that disease has entered, while the other States of Europe which, with the exception of Spain, have left their communications open have enjoyed immunity from contagion. Nothing has been heard of cholera in Switzerland, Germany, Austria, and Belgium; Italy has the enemy within her borders, while other countries which have followed a diametrically opposite course are free." We have dwelt upon this subject because we notice that the old system of rigid quarantine and military cordons still has its advocates, who have the courage of their opinions and follow out their convictions to a logical conclusion. They contend that the weight of positive evidence is in favour of the disease being infectious and of its being disseminated directly or indirectly by human beings, and that, therefore, all legislative enactment and procedure should stand on the basis of that assumption. They seem to be relatively unmindful of the part played by such indirect extracorporeal agencies as contaminated water, soil, and fomites Allowing for the sake of argument that their views are founded upon universally recognised truths, which is not, however, the case, the question of the impracticability of their application and failure after repeated experience, as well as the impossibility of framing any working system calculated to accomplish the end in view, are facts patent to all. We feel convinced that as our knowledge increases, and as civilisation progresses, there will be a general consensus of opinion abroad in favour of following the more reasonable and practicable method adopted in this country—viz., that of inspection combined with the detention and isolation of the sick, and, more especially, of improving the cleanliness and public health conditions and the protection of the water-supply of our towns and villages during the intervals that take place between recurring epidemics of disease.

Our weekly record of cholera is a fairly satisfactory one generally, and as far as this country is concerned is very satisfactory. The medical department of the Local Government Board had suspended the daily bulletins as to the progress of the disease in consequence of the Board having ceased to receive reports of any choleraic affections; but a sporadic case or two have since arisen. A detailed history of the disease in this country during the present year will form an interesting and instructive chapter in the history of the epidemic when it comes to be written, in consequence of the large number of places at which isolated cases or miniature outbreaks of choleraic disease have occurred. It still remains to be seen whether the epidemic, as far as this country is concerned, is dead or only dormant and hybernating, ready to become revitalised and active at some later date in the ensuing year.

As regards Russia, the prevalence of the disease, which has been steadily diminishing for some weeks past, seems to have reached a stationary stage of relative inactivity, more indicative of the presence of local endemic causes than of epidemic conditions. The returns from St. Petersburg up to Oct 21st show only a slight increase at St. Petersburg, Moscow and Siedlitz, but a more serious recrudescence at Kazan. The actual figures for St Petersburg, from the 16th to the 19th inst., are 91 cases and 39 deaths, and for Moscow (13th to 16th inst.) 6 cases and 4 deaths. The following returns, unless otherwise specified, are for the week ending the 14th inst: Warsaw, 23 cases and 4 deaths; Cronstadt, 32 cases and 15 deaths; Dorpat, 16 cases and 8 deaths; Orel, 134 cases and 44 deaths; St. Petersburg (government), 84 cases and 35 deaths; Simbirsk, 103 cases and 50 deaths; Smolensk, 11 cases and 4 deaths; Siedlitz, 48 cases and 24 deaths; Kherson, 116 cases and 60 deaths; Kovno, 84 cases and 30 deaths; Kursk (week ending 7th inst.), 129 cases and 51 deaths; Kazan (ditto), 166 cases and 102 deaths; government of Moscow (fortnight ending 14th inst.), 222 cases and 67 deaths.

From Berlin we learn that isolated cases of cholera still continue to make their appearance in different parts of the empire. The outbreak at Stettin has been on a small scale, and should, in accordance with the natural history of such occurrences, soon terminate. There have been 38 deaths in the interval from Sept. 23rd to Oct. 22nd. The outbreak is attributed by Professor Koch to impurity of the water-supply. A recent bacteriological examination of the water-supply is stated to have shown a contamination of the water from four of the filters at the waterworks. The Imperial Health Office at Berlin announces the occurrence of a case of cholera at Rixdorf, a south-eastern suburb of Berlin, and a fatal case at Nieder-Barnim in the Potsdam district, together with several other isolated cases in different places, as at Zerpenschleuse in Brandenburg, Tonning in Schleswig, at Hadersleben, and at Warson, near Stettin, among others. Two fresh attacks have been recently reported from Tilsit in East Prussia, and one from Stepenitz in Pomerania.

From Vienna it is reported that there have been 149 cases of cholera in the district of Stanislau, in Galicia. A sailor from Pressburg has been attacked with cholera in Vienna.

According to accounts from Rome, cholera is dying out at Palermo and Leghorn; there were 12 cases and 6 deaths in the former and 5 cases and 1 death in the latter place reported on Oct 22nd.

Reports from Bilbao show that the disease is decreasing, but 58 fresh cases and 19 deaths were recently returned as having occurred in three days in the province of Biscay. The latest reports indicate that the epidemic is now mainly confined to the town of Bilbao.

From Tunis on the 22nd inst. we learn that cholera has broken out at Bizerta, and that 10 deaths had already been registered.

After an interval of a fortnight cholera has reappeared at Antwerp; it seems, however, to be a limited recrudescence of the disease, although attended with relatively high mortality in those attacked.

THE DIFFERENTIAL DIAGNOSIS OF CHOLERA.

BY A BACTERIOLOGIST.

WE have been accustomed lately to read in the reports of certain cases of cholera which have been investigated by the public health authorities that "the disease was not distinguishable from Asiatic cholera." This phrase is a somewhat unfortunate one and must have led to a very general, but possibly false, inference on the part of the public. "The disease was not distinguishable from Asiatic cholera." Is this to be understood to mean that the disease in each case was Asiatic cholera, or that there was some doubt in the minds of those who had been called in to assist in making sure of the diagnosis? From our knowledge of the etiology of such diseases as tuberculosis and splenic fever we have gradually come to look upon a specific micro-organism as the determining cause of a special disease, although it may not always be able to come into play unless various predisposing causes prepare the way for its invasion. So well recognised is this fact that most pathologists would unhesitatingly refuse to pronounce a case one of tuberculosis unless they could demonstrate the presence of the bacillus tuberculosis in the secretions or tissues; or one of anthrax (splenic fever), unless they could find the bacillus anthracis; whilst if one of these organisms can be found no pathologist entertains the slightest doubt that he is dealing with the disease with which the specific organism is associated as an etiological factor. If the evidence of a bacteriological expert is required it can only be, in the case of cholera, to help to prove that some specific micro-organism, by authorities associated with the causation of the disease, is present or not, and such presence or absence can only be accepted as evidence of the nature of the disease, if the generally accepted theory as to the relation of the micro-organism to the disease is endorsed.

If the evidence of the science of bacteriology is to be accepted as having any value, it should enable an expert to give a definite opinion "aye" or "no," and it is simply playing with terms to say that a certain morbid state is indistinguishable from a given disease. Cholera occurs in certain definite forms, each of which may be characterised by groups of symptoms, the groups differing in different cases of the disease; but in all cases the one common factor hitherto demonstrated is the presence of Koch's comma bacillus. In view of this I must also enter my protest against the use in scientific parlance of the term "choleraic diarrhœa."

In the history of the development of our knowledge of disease we find that the first classification of disease was based almost entirely upon symptomatology, and certain groups which we now know to be distinct were, from the fact that they had certain features in common, arranged under a common heading. During comparatively recent years many of these groups have been so subdivided that, without studying carefully the history of the process of evolution of our knowledge of the present recognised forms of disease, it would be difficult to associate many of them with the groups to which they were originally assigned. In every case this differentiation has only been possible through, in fact has been based upon, the presence of a definite etiological factor. As an example of this it is only necessary to refer to the diseases of tuberculosis and actinomycosis in cattle. At one time every case of actinomycosis was described as one of tuberculosis, and it was only when the Ray fungus had been demonstrated that any differentiation became possible, and this result in turn could not have been arrived at, had not the tubercle bacillus been demonstrated as the exciting etiological factor in the various forms of tuberculosis that come under the notice of the physician and surgeon. The boundary lines between various diseases have been altered in some cases, in others restricted, but in all they have become more exact and definite as the causes have been gradually demonstrated. What holds good in the case of tuberculosis should, by analogy, obtain in *cholera Asiatica*. Cholera is a specific infective disease in which a specific micro-organism may invariably be demonstrated, and, rightly or wrongly, is almost by general consent recognised as the active causal agent. The terms "cholera" and "choleraic" should be strictly reserved for use in connexion with this specific disease. It is just as rational to speak of an ordinary cold and cough as *phthisical* as to speak of diarrhœa as *choleraic*, despite the derivation of the latter term. This specific micro-organism, the cholera bacillus, is found so invariably in cholera that only two explanations of its presence can be given—(1) that it is the cause of the disease, (2) that it is only a concomitant in the process. The latter view was at one time vigorously maintained in Germany by Buchner and others, but at present is only held, rightly or wrongly, among bacteriologists of note, by Dr. Klein. Buchner held, in which he was followed by Dr. Klein, that the comma bacillus was merely a concomitant in the process, being permitted to multiply as a result of the changes in the intestine during the process of the disease; he compared its presence to the frequent presence of the oïdium lactis during the lactic acid fermentation of milk. It must be remembered, however, that the parallel in the two cases is not complete, as we may have the lactic acid fermentation going on without the presence of the oïdium lactis, so that no one can remain in doubt as to its being an essential element in the process. We have, indeed, no example in science of an organism being constantly associated with a process to which it bears no etiological relation, and until such a case has been established such a supposition, based on merely theoretical considerations, ought to carry little weight. It has, indeed, been stated by Dr. Klein that he has been able on two occasions to separate from the human mouth an organism which "seemed indistinguishable from the choleraic comma bacilli" by all the cultural tests; he also states that on ligaturing a loop of the lower ileum of a monkey just above the ileo-cæcal valve and setting up a condition of irritation by injecting a saturated solution of magnesium sulphate, he was enabled to produce a choleraic condition in which comma bacilli were found almost in a state of pure cultivation. The colonies on gelatine plates and in agar-agar and gelatine tubes were "indistinguishable from the cholera comma bacilli." These results, although published in 1886–87,[1] still lack confirmation. Had such confirmation been obtained, the retention of this view might have appeared intelligible, but so far from this being the case its originator, Buchner, subsequently completely retired from his position and has become a sturdy supporter of Koch's theory.

What, however, is the outcome of Koch's theory? He believes that cholera is a specific infective disease, endemic in certain regions, which may from time to time, owing to the nature of the etiological factor or factors, become epidemic in centres brought into more or less direct communication with the centres in which it is endemic. In both the endemic and epidemic forms of Asiatic cholera there is invariably to be found—causally, as Professor Koch holds—a spirillum or comma bacillus, an organism which is never present in the intestines in cases of European or English cholera. If the comma bacillus is found in the dejecta during any period of the course of a disease that disease must be Asiatic cholera. On the other hand, those who maintain that the comma bacillus is not specific in character, that it is to be found in the alimentary tract of healthy people in all sorts of conditions, and that it multiplies merely as the result of irritation of the intestinal wall or of alterations in the intestinal contents are cut off from the use of the presence of the comma bacillus as a diagnostic feature. If the comma bacillus may occur under those conditions, examples of which have been given by Dr. Klein, its presence cannot be of the slightest diagnostic value, for it should, under these conditions, be found in cases of ordinary diarrhœa almost as readily as in cases of true Asiatic cholera, and the disease should, bacteriologically, be just as "indistinguishable" from ordinary English cholera as from the most acute form of Asiatic cholera. This is a difficulty that must be faced, and it is well that the matter should be settled as soon as possible in order that the exact value of the diagnostic feature may be recognised. In the eyes of those who followed Buchner and believe with Dr. Klein, the cholera bacillus can have little or no diagnostic significance. It should be demonstrable in certain cases of irritation of the intestines or in groups of cases; what may be common to all can have no pathognomonic significance in any. On what bacteriological evidence, then, is the statement based that the disease is indistinguishable from Asiatic cholera It cannot be on the evidence of the presence of a comma bacillus—of a factor common, according to Dr. Klein's view, to this and other forms of diarrhœa. But what else those who hold this view have to go upon passes the wit of most bacteriologists to comprehend. If any

[1] Practitioner, 1887, vide also The Bacteria in Asiatic Cholera, 1889.

further evidence has been found it should be published at once in order that all may avail themselves of it.

It is sometimes stated that Asiatic and English cholera resemble one another so closely that it is impossible to distinguish between them. Those, however, who have given most attention to the question maintain, that not only do they differ as to the mode of their causation, but also that they are entirely distinct as regards their pathological relationships. There can be little doubt that in many instances the lines of demarcation are so strongly drawn that it would be almost impossible to mistake one disease for the other; but, on the other hand, the veriest tyro in medicine cannot but be struck by the fact that in certain cases—and these are the cases in which difficulties arise—the symptoms are so ill-defined that without knowing something of the history and the etiology of the case it is impossible, without reference to something more than the symptoms, to arrive at a definite diagnosis. In simple English cholera the most characteristic symptoms are vomiting and purging, with complete evacuation of the food contents of the stomach and intestines, which ultimately contain little but bilious or bile-stained fluid. This condition is accompanied by griping pains in the abdomen and often by cramps in the limbs; there are great collapse, extreme pallor and coldness of the skin, a weak pulse, and other symptoms of more or less marked prostration. No comma bacilli corresponding to those described by Professor Koch are found in the dejecta obtained from a patient suffering from a typical attack of this disease. In Asiatic or Indian cholera the typical case also runs a very definite course. The first, or so-called premonitory, stage is characterised by mild diarrhœa of a painless nature, but, unlike English cholera, unaccompanied by vomiting. This condition usually lasts for two or three days, and is followed by the second or algide stage. In some cases the premonitory stage is absent or lasts for so short a period that its presence is not recognised. The algide stage has a very rapid onset and is marked by most violent diarrhœa. The intestines, fairly well cleared out by the preliminary diarrhœa, are soon freed from all traces of fecal or bilious material, and there comes away simply a serous discharge which is compared in appearance to whey, or, when there are flakes of detached epithelium floating in it, to rice water. This diarrhœa appears to give great relief to the patient and, unlike that of English cholera, is at first unaccompanied by griping or vomiting, both of which, however, appear at a later stage, during which there are violent muscular cramps, especially of the legs, feet and abdomen, and marked collapse supervenes. The skin of the patient becomes cold and livid, dry, inelastic and wrinkled, the features are pinched and the eyes sunken, all of which give evidence of the enormous drainage of fluid from the body. This may also occur, though in a lesser degree, in English cholera. The pulse is feeble, the voice weak and hoarse, and there is complete suppression of urine. In the third stage the diarrhœa continues, but there is a regular reaction, most of the above symptoms become modified, but the urine is still passed in small quantity only, and often contains a considerable amount of albumen. This may be followed by the so-called typhoid stage, in which there are marked fever and evidence of the absorption of septic products from the intestines. It will at once appear evident that there are here described marked differences as regards their clinical features between the two diseases in typical cases; but in addition to those above mentioned there is the fact that the comma bacillus is invariably to be found in typical cases of Asiatic cholera whether they are of endemic or epidemic origin. A most important point to be borne in mind is that in Asiatic cholera there appears to be a most marked paralysing action of some morbid material on the tissues of the liver and kidneys, an action that is seldom observed to anything like the same degree in English cholera. In the later stages of Asiatic cholera, too, bile seldom appears in the fæces and the kidneys cease to act, and when they do begin to act afresh there is definite evidence that the epithelium or some of the renal tissues have been profoundly modified, in the fact that so much albumen appears in the scanty urine that is passed. With all this, it must be acknowledged that there are cases in which it is impossible to diagnose the exact nature of the disease from the clinical picture alone, and it is just in these cases that bacteriology sheds light on the subject. The comma bacillus being invariably present in typical Asiatic cholera and absent from the English form must be looked upon as being an efficient diagnostic feature in those cases which, clinically, are so difficult to distinguish, and, as a matter of fact, bacteriologists do not now hesitate to classify such cases as Asiatic or English according as the comma bacillus is present or absent.

To turn again to tuberculosis for an analogy, it will be found that certain cases of acute miliary tuberculosis may at once be diagnosed, but that in other instances it is difficult to distinguish them from cases of enteric fever or pneumonia. Where, however, one is able to find the tubercle bacillus in the tissues there is not the slightest hesitation in diagnosing the case as one of tuberculosis, and it should now be recognised that Koch's comma bacillus supplies one with an equally distinctive and pathognomonic diagnostic factor in cholera. Symptoms and groups of symptoms are valuable, but nothing can take the place of a factor which, in typical cases of Asiatic cholera, has, if not an etiological relation, yet a close and constant relation to the process. To sum up, then:—1. If the presence of the comma bacillus is simply accidental or concomitant, due to the irritation of the intestine, and if its presence in sufficient numbers can be ensured by simple irritation of the intestines, it cannot be looked upon as being a feature of the slightest diagnostic value. 2. If, on the other hand, the comma bacillus appears constantly and in large numbers in the intestines in cases of Asiatic cholera, whether endemic or epidemic, and is not found in typical cases of English cholera, it must bear some definite relation to the former disease, whilst it can have none to the latter. 3. As it is the only factor which appears to be constant in typical cases, it may be argued, from the extreme to the intermediate cases—a justifiable mode of argument—that here also its presence or absence enables one to make a diagnosis between doubtful cases of Asiatic and English cholera. 4. Lastly, bearing in mind the etiological relation of other specific and constantly occurring micro-organisms to other diseases, and the experimental proof that exists as to the toxic action of pure cultures of the comma bacillus in minimal doses, one is justified in ascribing to this micro-organism the etiological *rôle* in Asiatic cholera.

*** We gladly afford space for the above, as we think that at the present time it is of undoubted importance that the views of the majority of bacteriologists—and we imagine that the above statement may be taken as representing those views—should be put clearly on record. At the same time, we would venture to express a hope that Dr. Klein will favour the profession with a statement of the opinions which his investigations and experience have enabled him now to reach with regard to the relation of Koch's comma bacillus to cholera. We have no doubt that the Local Government Board and the London County Council have good reasons for the adoption of the expression "not distinguishable from Asiatic cholera"; but from some points of view we must agree with the writer of the above article that the phrase is by no means free from objection.—ED. L.

THE PATHOLOGICAL MUSEUM IN THE MEDICAL SCHOOL AT CAMBRIDGE.

IN the *Cambridge Review* of Oct. 12th is a short account of the Pathological Museum at Cambridge by Sir George Humphry. This museum contains about 4000 specimens of morbid structures from the human body. A written catalogue of the nervous and circulatory systems was made by the late Sir George Paget, and a catalogue of the remainder has been made and in great part printed by the Professor of Surgery.

Among the specimens is mentioned the skeleton of a true dwarf—that is, a dwarf in whom the several parts of the frame, though small, are fairly proportioned to one another. It is that of a man who had passed the middle period of life and was well made. The height is 41 in. It was purchased in Paris. So far as the writer has been able to ascertain it is the only example of the kind in the country, but in the museum at the Jardin des Plantes in Paris, is the skeleton of the celebrated Polish dwarf, Nicholas Perry, alias Bœbe, aged twenty-three, who was not more than three feet in

height. The skeleton stands near to, and contrasts well with, that of a rickety dwarf—that is, a person dwarfed by the disease called rickets which occurs in infancy. It is that of a woman who, in spite of her great deformity, attained the age [of eighty-five, and was well known as a beggar in the streets of Paris about the year 1835. In this example the diminutive stature (34 in.) is due partly to the shortness of the limbs, a usual feature of rickets, but in great measure also to the numerous and marked curves in the spine and lower limbs. The chest and pelvis are also much deformed, but the skull is of nearly the usual size and is rather thick, dense, and heavy.

There are several examples of the changes which take place in the bones in advancing years, and the curious fact is demonstrated by several specimens that the skull, though often thin and light in old people, is, on the contrary, not unfrequently thicker and, in some cases, even denser and heavier than at middle life; and this occurs although in the same persons the other bones are lighter owing to the process of absorption, or wasting, going on in their interior. It seems very strange and not easily to be explained that the skull should thus grow thicker and heavier, this occurring without any appearance of disease, whilst the other bones are becoming lighter and weaker, and less able to bear the increasing weight of the skull. This fact is well illustrated by a skull and a thigh-bone preserved in the museum, which appertained to a woman who was reputed to have attained to the age of 103. The skull in this instance weighs 28½ oz., which is 5 oz. or 6 oz. above the average weight of the female skull, and this extra weight is due to the thickness and density of the component bones of the brain-case, the bones of the face having undergone the usual changes, associated with loss of teeth, in old people—that is to say, they have become smaller and lighter. In contrast with this increased weight of the skull is the remarkable lightness of the thigh-bone; it is a good-sized, well-formed bone, indicating that the woman to whom it and the skull belonged had been a fine, strong person; but it weighs only 5 oz., which is little more than half the average weight (9½ oz.) of the same bone in women; it is a wonder that so fragile a bone could have borne so heavy a skull. A specimen of no small interest may be seen in the lower gallery, placed amongst the many calculi which have been removed by operation during life by the surgeons of the hospital. It is a calculus removed after death, and is one of the largest ever taken from the human bladder. It is nearly spherical, measures 15 in. in circumference, and weighs 34 oz. The analysis of it, made by the late Professor Cumming (Professor Liveing's predecessor in the Chemical chair) and given in the first volume of the Cambridge Philosophical Transactions, shows it to be composed of a central nucleus of lithic acid (now usually called uric acid), which doubtless was formed in the kidney. Around this is a considerable amount of oxalate of lime, which is enveloped by an enormous thickness of lithic acid, arranged as usual in concentric layers. Over the whole is a thin coating of fusible material (ammoniaco-magnesian phosphate of lime). Though it may be inferred that it commenced in the kidney, the great mass must have been added after its descent into the bladder. The great density indicates its slow formation, which continued probably during many years, and, further, that it had not been attended with much pain or disturbance of the urinary organs, which, indeed, is shown by the remarkable fact that the bearer of it was able to ride on horseback till within a short time of death. From an account given by Dr. Heberden in the forty-sixth volume (1752, page 596) of the Philosophical Transactions of the Royal Society we learn that it was taken from the wife of a locksmith, at Bury, by Mr. Gutteridge, a surgeon at Norwich, and it is stated that during a ride on horseback she was seized with severe symptoms which terminated fatally. "This happened in the reign of King Charles II., who, being then at Newmarket, had the stone brought to him, some part of which was chipped off from one of its ends to show the King that it consisted of various coats formed one over another as animal stones usually are." There is an appearance of loss of substance, probably thus caused, at one part of the surface. The expression "at one of its ends" is, however, scarcely appropriate. The stone was presented to the library of Trinity College and kept there as a curiosity till lately, when it was transferred to its present position in the Pathological Museum. Great pains are taken to keep the collection in good order. The specimens are well displayed and serve their purpose admirably, and the University accounts show that this is done at small cost to the University.

THE MANCHESTER SHIP CANAL.

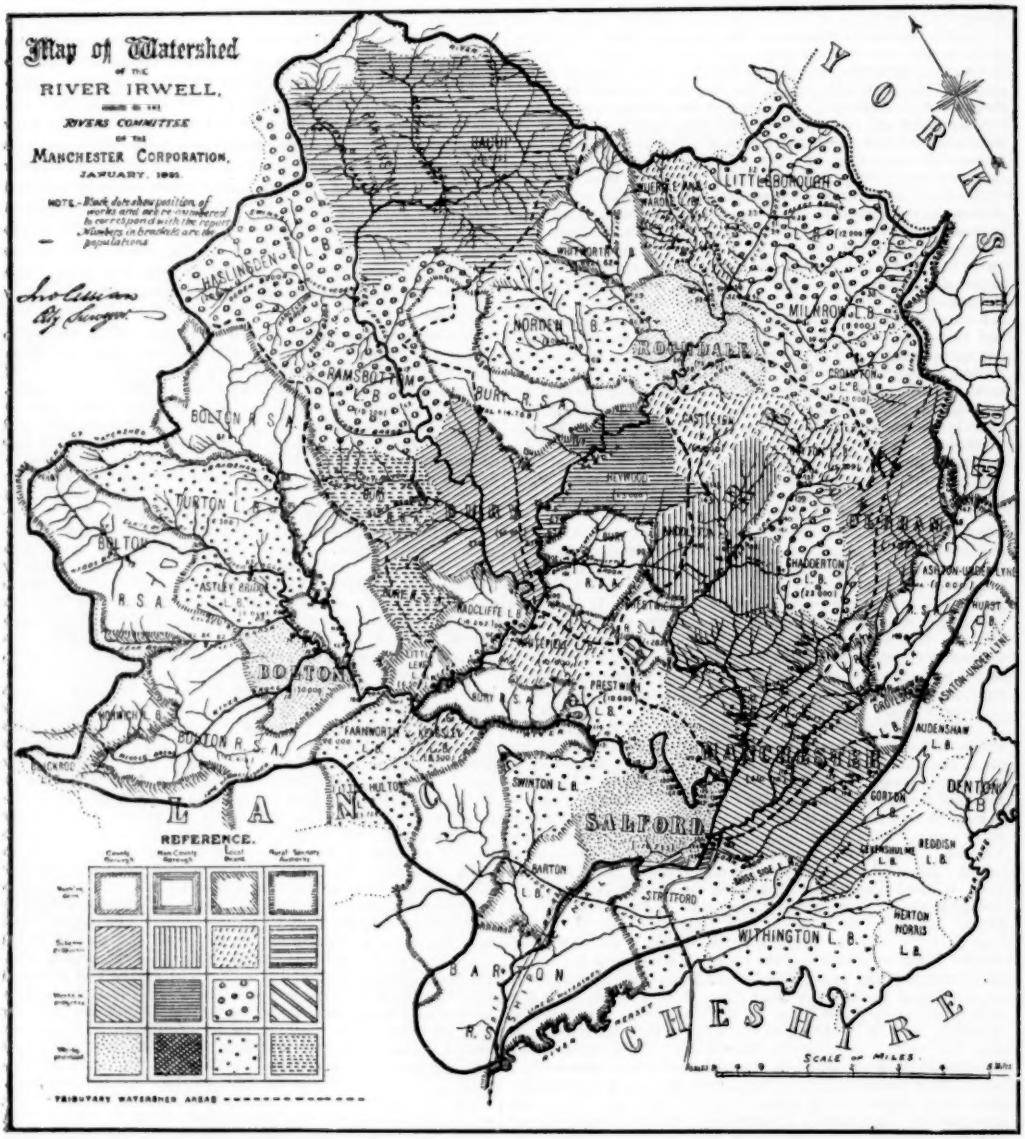
(FROM OUR SPECIAL CORRESPONDENT.)

II.

IT would fill a big volume to describe the legal proceedings and other measures that have been taken to protect the watershed of the Irwell. The accompanying map will give some idea of the difficulties and of the slow progress accomplished. The ramifications of the river Irwell and its tributaries are indicated, while the territory under the jurisdiction of the various local authorities is shaded differently so as to indicate the nature of each local authority and whether anything has been done by it to prevent the pollution of the river. Though this map does not bear a very recent date, no very notable alteration or improvement has taken place since it was drawn up. It still shows in a fairly accurate manner the immense amount of work that must be accomplished before the pollution ceases and clean water can be obtained for the Ship Canal. It also shows clearly how the whole watershed converges to the head of the canal. Indeed the latter is like the trunk of a mighty tree, the Irwell, the Irk, the Medlock, and their tributaries constituting its many branches.

To illustrate the nature of the difficulties to be overcome and the work actually done, a few instances may be briefly described. Thus in 1885 the town clerk of the borough of Salford, acting under instructions from the Rivers Committee, wrote to twenty-nine out of the seventy local authorities on the watershed of the Irwell. These authorities were informed that proceedings would be taken against them under the Rivers Pollution Act of 1876. Taking them in their alphabetical order, this is the history of the negotiations with the corporation of Bacup. This town is provided with small filtering tanks at Stacksteads that deal with only a portion of the sewage—viz., that which comes from the higher part of the town. The remainder flows in its crude state into the Irwell at Waterfoot, a district recently annexed to Bacup. Apart from sewage proper, there are the exhaust waters from dye-works and the rubbish or débris from several quarries. Notices of proceedings were served on the Bacup authorities on Jan. 19th, 1886. On April 21st following, in reply to a further letter, the town clerk of Bacup wrote that the neighbouring district of Rawtenstall had been invited to join so as to prepare a joint drainage scheme. During the following month of October the town clerk of Bacup again wrote saying that the joint scheme had fallen through. On Jan. 21st, 1887, after the lapse of just one year, the same thing took place all over again; the town clerk sent a copy of the correspondence with Rawtenstall, showing that the scheme which had been abandoned was now taken up a second time and was once more under consideration. Six months elapsed, then came the news that a joint meeting of the two authorities concerned had been held, and that the town of Bacup was only waiting for the decision of the authorities of Rawtenstall. Three months later the clerk to the Haslingden Board informed the Salford Corporation that his Board had resolved to join Rawtenstall and Bacup in a scheme for dealing with the sewage of all three districts. At the end of the year, however, on Dec. 6th, the town clerk of Bacup wrote that everything was changed and that his committee had now decided to deal separately with their sewage, and were negotiating to procure land for this purpose. Two days later, in answer to inquiries, he stated that a report and drawings for a sewage scheme had been prepared and would be submitted to the Local Government Board for approval as soon as they had secured land. Thus two years had been expended in futile negotiations; yet in February, 1888, the Bacup town clerk explained that there had been no unnecessary delay, as the owner of a second plot of land they needed was abroad. Maps and proposals for purchase had been forwarded to the landlord, and his reply was awaited. Still nothing was done. In the course of the month of June it was stated that the surveyor and staff were engaged preparing the necessary plans, so it now became evident that the plans already drawn up were altogether insufficient. At last the corporation of Salford, after two and a half years spent in correspondence, completely lost patience, and gave notice that they would

commence proceedings in a month's time. To this threat the reply was made that the corporation of Bacup had acquired some land for the further treatment of sewage, and that negotiations were proceeding for the acquisition of the additional land that was needed, but the owner lived in the United States, and communications were difficult. The surveyor was engaged in preparing plans and estimates for sewers and works to be submitted as early as possible to the Local Government Board. In October inquiries were made as to what progress had been accomplished and the answer did not come till the end of December. Details were then given as to the steps taken by the Bacup corporation for the acquisition of land. The corporation of Salford, in answer, asked if the land to be purchased would be sufficient, and the town clerk of Bacup replied that, with another plot provisionally acquired, it would be large enough for the treatment of the sewage. Thus ended the third year of negotiation and still nothing had been done to lessen the nuisance. In January, 1889, two months further delay was granted before proceedings were taken. This was met by explanations as to the difficulties of purchasing the necessary land; but, so as to pacify the Salford corporation, it was now announced that an application would be made for a provisional order sanctioning a compulsory purchase. In April inquiry was made whether the provisional order had been obtained, and in answer it was stated that plans were in course of preparation so that the application might be made in November. In August, however, in reply to a further letter, it was announced that negotiations had been reopened with Rawtenstall. In October, when asked whether these negotiations were successful, the Bacup authorities said they were once more preparing to obtain the provisional order. Thus passed the fourth year and still nothing was done to prevent the pollution of the river Irwell. In February, 1890, a local inquiry was held, and in April the town clerk of Bacup reported the conditional grant of a provisional order; but



in July, in answer to inquiries, he stated that the provisional order had not yet been obtained. Thus a fifth year slipped by with the same barren result. But finally the provisional order to acquire land was obtained from the Local Government Board, so that there was now no longer any material obstacle in the way to prevent the construction of the sewage works. Such being the case, negotiations were reopened with Rawtenstall and Haslingden, which caused still further delay. As might be anticipated, the negotiations came to nothing; but Rawtenstall and Haslingden determined to have joint sewage works, and left Bacup outside the agreement. Thus Bacup was once more thrown on its own resources, and has obtained a delay of eighteen months to carry out sewage works of its own. Before this is accomplished it is probable that eight or nine years will have elapsed, during which time the corporation of Salford have constantly brought pressure to bear and have threatened legal proceedings, and, notwithstanding all this, nothing has been done to check the flow of the Bacup sewage into the river Irwell.

This is a long story, though told in the briefest manner possible; yet these are the chief heads of the history of the negotiations with but one out of the seventy local authorities. Details as characteristic and as lengthy could be given concerning many of the other authorities. Similar difficulties have arisen, for instance, with the corporation of Bury, which, in spite of its large population of more than 52,000 inhabitants, throws its cinders, its refuse from works, from houses and from closets, into brooks that flow into the river. Since 1886 the Salford authorities have threatened to prosecute this corporation. Promises were made and promises were broken. Schemes were proposed and prepared, but never carried into execution. Then the Local Government Board refused to sanction the schemes finally submitted, because it was not proposed to acquire sufficient land. The Bury Board, of course, disputed the decision of the Local Government Board, and doubtless the controversy would have continued for ever but for the special Act of 1892. Previously to the passing of this Act the corporation of Salford had been obliged to abandon legal proceedings because they found that the Rivers Pollution Prevention Act of 1876 had no retrospective action. After careful inquiry they ascertained that the sewers of Bury, which contaminated the watercourses, had all been built before the passing of the Act in 1876. These sewers, of course, were none the less harmful; but, nevertheless, they could not be dealt with. Bury was the first town, however, to be prosecuted under the new local Act, known as the Mersey and Irwell Joint Committee Act of 1892. The corporation of Bury sought to defend themselves under a local Act passed in 1846, claiming that Section 102 of this Act gave them the right to throw their sewage into the stream. The court, however, held that Bury was represented on the Joint Committee and that the Act of 1892 applied to all within the jurisdiction of that committee. In 1891 the committee had asked for more power and had obtained more power. Though the Act of 1892 did not, in so many words, express the repeal of the Act of 1846, this was implied, as otherwise the Act of 1892 would be absolutely useless. The corporation of Bury was therefore fined £5 and £20 costs in each of the two cases of river pollution proved, and had twelve months' grace given them to construct works dealing with their sewage. The twelve months are now just expired, and yet practically speaking nothing has been done. Bury has some pail closets and some water closets. There are sewers in all the streets. One large sewer has its out-fall into the river Roach and the others flow into the Irwell. The corporation plead that they cannot obtain land for sewage works, and they also urge that a larger share of the cost of these improvements should be borne by the ground landlords.

The first case tried and the first case won before the new Act was against the Radcliffe authorities. In October, 1887, they were ordered to cease polluting the river by sewage and given two years to execute the necessary works. It will scarcely be believed that, in spite of this verdict, nothing was done. Fresh proceedings were taken, then a fresh delay was accorded. The plans prepared were not, however, approved of by the Local Government Board; there was insufficient provision for land filtration as well as chemical treatment. Then the Whitefield authorities wanted to amalgamate, and as they could not come to terms with the Radcliffe Board further delay ensued. The latter is now waiting for the approval by the Local Government Board of a new scheme embracing the lower part of Whitefield and Radcliffe, and pending this the case has been adjourned for a few weeks. Thus, though a verdict was obtained against the Radcliffe authorities in 1887, and we are now approaching the end of 1893, nothing has yet been done, and the pollution of the river continues.

(To be continued.)

THE CONDITION OF CHICAGO.

WHEN, in THE LANCET of April 8th, we presented to our readers the results of an elaborate inquiry which we had caused to be made into the drainage and water-supply systems of the city of Chicago it became evident that, in spite of great natural advantages, that city would, in the course of the present year, be exposed to serious peril of the outbreak of epidemic disease under conditions which would render its course, if once started, very difficult to stem. The anxieties which were natural to such an occasion are now happily dispelled, it is possible to look back upon the great undertaking as having been marked by no untoward event affecting the public health, and the hopes which we then ventured to express have now been completely realised.

We have been desirous to ascertain how far this happy result could be attributed to the success of precautions taken by the municipal authorities and the inhabitants of the city to protect themselves and their guests against the sources of danger which were known to exist in their midst, and with this object we have obtained from a correspondent in the city a report upon the sanitary improvements specially adopted in view of the Exhibition, over and above those preparations which were particularised in our earlier statement. From this source it appears that Chicago cannot place much to the credit of her energy in reference to the matter. It is, however, only fair to remember in this connexion that circumstances both exceptional and unforeseen have no doubt interfered with the realisation of plans which were announced at the commencement of the Exhibition season.

Our correspondent writes: "The general improvements that have taken place in the city of Chicago since the month of April last are by no means considerable. It is common opinion that the financial crisis which has been pending throughout the country during the last five or six months is responsible for this state of affairs. The city of Chicago has not had at its disposal the money which it was perfectly justified in expecting when promises were made by the authorities to carry out certain improvements. Every householder has suffered more or less from the crisis; taxes have not been paid regularly, and the city has not pressed for them with severity. As a consequence Chicago has been poor, and the period of the World's Fair will prove to have been one of the dullest on record as far as improvements are concerned. It is very easy to understand how difficult it is for the finance committee to execute these and keep pace with the rapid growth of the city while the population increases so fast and immense quantities of new territory are constantly being acquired. Very little indeed has been done within the last six months. Many persons are inclined to believe that the apparent stagnation in work has been mainly due to the elections that took place a few days prior to the opening of the Columbian World's Exposition. Such, however, is not the case."

The explanation thus given is no doubt a matter which must be taken into account when forming any judgment upon the way in which our American friends have discharged their responsibilities in connexion with the protection of the public health during this season of exceptional pressure upon the resources of their city; but it is matter of notoriety that in at least one important particular the failure of the city authorities to redeem their promise of improvement in the water-supply was due not to pressure of circumstances but to some want of foresight. We refer to the extension of the Lake tunnel which supplied water to the Sixty-eighth-street pumping station. This was by common consent a most necessary and important work, for the old in-take, situated not more than a mile from the shore, was observed to be subject to serious contamination from the Calumet River and the Lake Shore sewer outfalls. The necessary extension was to have been perfected early in the present year, but at the time of the opening of the Exhibition was still incomplete. Then it was said that the operations had nearly approached completion

and that the new intake would be brought into use at some time in June, and the matter was reported by us accordingly in THE LANCET of April 8th. When the deferred date arrived it was found that the tunnel, though complete, could not be made use of, for fear of fouling the water, until such time as arrangements could be made to dispense for two or three days with any supply whatever from this source. That could not be done during the Exhibition season, and consequently Jackson Park and the district which adjoins it have been kept supplied throughout the season from this condemned source of water-supply.

It is pleasant to turn to another aspect of the case, in which a much larger measure of success has attended upon the arrangements made for the accommodation of visitors to the World's Fair. Our correspondent writes: "It was feared, prior to the opening of the Exhibition, that the housing accommodation of the city would prove to be altogether inadequate to cope with the enormous influx of visitors that the management expected. The contrary has proved to be the case. During the past three weeks[1] enormous crowds have been visiting the Exhibition, and the most zealous devotees have at length seen their dreams realised. The number of admissions is increasing steadily. Over two hundred thousand persons pay their way into the Fair daily. If to this number are added the fifty odd thousand officials and employés who pass in without paying, a total of two hundred and fifty thousand is reached. The number does not include the many thousands who came to Chicago before the opening of the Fair and opened up stores and shops of all kinds in the vicinity of the Exhibition. All these persons have been housed without difficulty, some in the centre of the city, in the large hotels and fashionable boarding-houses, others in the many hotels of all kinds around the Exhibition, and still others in the suburbs south and west of the Exhibition, within a quarter of an hour's distance of it. In fact, there are thousands of rooms at the present time of writing vacant, not because any excessive prices are demanded, but simply because preparations were made six months ago on far too large a scale. Rooms are procurable at normal charges, and one hears no more complaint on this score. Many first-class hotels are in the hands of receivers, some being even closed down completely, notwithstanding the fact that the daily attendance at the Fair is maintained at a very high average and compares most favourably with the attendance at other Exhibitions. What is said of the hotels may also be applied to the boarding-houses and other places where rooms are rented. Rooms are procurable at as low a rate as fifty cents per night in respectable houses, and a very keen competition exists all over the city in the endeavour to attract visitors."

Here we are able unreservedly to admire both the characteristic enterprise of the people of Chicago and the magnificent resources of their city. We regret to learn that the demand for accommodation has been upon a scale not altogether commensurate with the provision made, but that, at least from our point of view, affords no ground for complaint. As compared with other international Exhibitions, this one of Chicago will probably be distinguished in the recollection of most of its visitors more than anything else for the magnificent expanse which it has occupied, giving a delightful sense of "elbow room." Enormous buildings of fine proportions and a magnificent expanse of park intersected by the ramifications of an admirably designed lakelet, together with the near neighbourhood of Michigan itself, have combined to give to this Exhibition an airy, breezy character, even in the height of an American summer, than which nothing could have been more delicious and which it would be idle to expect elsewhere.

THE ATHLETIC LIFE.

THE winter session of the Athletic Association of Birmingham was opened on Thursday, the 19th inst., with an address by Sir Benjamin W. Richardson. The subject chosen was "The Athletic Life." The lecturer limited the period of the athletic career to a shorter course than is generally accepted—namely, from the eighteenth to the thirty-sixth year; but it should be understood that he meant by this the true athletic existence, in which really active contests can be carried on. Contests of a serious kind should not be attempted until the body approaches maturity and should not be continued after the time when the body comes near to middle age. A point was raised whether every person can be transformed, under any trainer or under any system of training, into a veritable athlete—that is to say, into one who can properly enter into a contest. It was admitted at the end of the discourse that a physically uncultivated nation might have its strength easily doubled by the introduction of a sound system of athleticism; but it was contended that amongst the members of communities there were always a number who although benefited by physical exercises could never become athletes and who ought never to attempt to reach the position. A distinction was thus raised as between common physical exercise and the trained exercise intended for the purposes of competition. A speaker, Mr. Mathews, in moving a vote of thanks to the lecturer, explained that he, a Swiss mountain climber, kept up his climbing feats although he was sixty years of age—viz., twenty-four years of age beyond the period that had been specified; but that is not athleticism was the reply, it is common exercise that requires no trainer, and although it is risky it does not come into the sphere of the athletic life. Here is a question that opens up a wide field of controversy amongst those who have made athletic pursuits a part of their practical studies. Is there a line of demarcation between athletic exercise and systematic common exercise? The answer, we presume, will be that there is such a line of demarcation and that the term "athleticism" is only applicable to pursuits where competition comes into play and where, perhaps, a course of training is required for success. This evidently was Sir Benjamin Richardson's view, and he mentioned—as the qualities to be developed by such training—precision, decision, presence of mind, and endurance. These qualities are of a mixed sort, being partly physical and partly mental, but their inter-relation is very intimate, and it is easy to see that their joint employment must result in the perfection of athletic prowess, in whatever department of athleticism they are displayed. At the same time the four qualities had not, in the lecturer's eye, an equal value; mental endurance, the other qualifications being in fair condition, stood first. A comparatively feeble development of body could be made effective by mental endurance, and some most important physical difficulties could be overcome by strength and endurance of will aiding and sustaining endurance of a physical kind. Several striking examples were supplied in which mental endurance carried the day, and it was shown that pure physical accomplishment, great as it might be, was of little avail when not backed up by the strength of the natural and commanding mind. In other words, mere strong savagery could not make either a nation or a man physically great; there must be that inborn faculty or quality which, though not measurable, nor to be weighed, nor in substance visible, becomes in action the essential virtue, the power that wins: the same virtue that sustains the orator, the writer, and the discoverer, and that belongs in the highest degree to the highest civilisation.

In dealing with what may be termed the moral side of athleticism Sir B Richardson quoted at length an annotatioon in THE LANCET of Oct. 14th on the degradation of athletics. He supported strongly our view that if sport is turned into a means of gaining a livelihood the good old English competition will quickly degenerate and sport will become a mere cover to a number of false practices, instead of being a wholesome and generous recreation. In a further passage he pointed out the danger of introducing gambling into athletic competitions, insisting that the moral evils introduced by that mischievous practice would destroy all good that could possibly arise from laudable competition.

It is satisfactory to find that so many of the medical practitioners of Birmingham are taking a lively interest in the development of athleticism in their city. Birmingham is one of the cities that must be essentially benefited by the labours of men of science directed to the advancement of the general health; and the tone imparted by the courses of health lectures on the subject which are to follow in the gymnasium will, we feel sure, be a most practical addition to the athletic spirit

[1] That is, prior to Sept. 25th last.

THE ENTRIES FOR THE SESSION 1893-94.

THE subjoined table places before our readers, as fully as the returns at our disposal will permit, the numbers of students enrolled up to the present in the Metropolitan and Provincial Medical Schools. The tabulation also enables us to correct an error in the dates of the entries which were given in our last issue, and which by an oversight were transposed on their way to press. The Scotch and Irish enrolments are not yet completed. The figures printed in heavier type in the centre columns will enable the reader to contrast the returns of 1893-94 with those of the session 1892-93. We should have liked to be able to publish a more complete return of the students in attendance at the various schools arranged in a manner to show the respective periods of study which they have reached. It would have been instructive and valuable to have some idea of the total number of those engaged in the various branches of study. It would, perhaps, be difficult to range the students in groups according to the stages which they had attained; but, at any rate, every school must have a list of those who have entered on their "first," "second," "third," or "fourth" years, &c, of study. Next session we trust that the same courtesy which we have experienced at the hands of the school authorities in respect to the returns of new entries will be extended to the ampler return to which we have alluded.

NAME OF SCHOOL.	Analysis of new entries.						Number of students at present on the roll.				
	General students.	Special or occasional student's.	Dental students.	Preliminary scientific students.	Total, 1893-94.	Total, 1892-93.	First year.	Second year.	Third year.	Four years and upwards	Totals.
St. Bartholomew's Hospital	95	33	—	28	156	150[3]	95	112	105	125	437
King's College Hospital	33	74[1]	—	12	119	95	†	†	†	†	†
St. Mary's Hospital	79	77	—	8	164	165	79	61	76	200	416
University College Hospital	43	46	—	75	164	155	—	—	—	—	—
Middlesex Hospital	30	22	11	6	69	92	34	42	69	98	243
Westminster Hospital	18	18	—	†	36	19	18	11	16	39	84
Guy's Hospital	116	58	32	32	238	191	†	†	†	†	†
St. Thomas's Hospital	71	15	—	8	94	96	45	61	66	200	372[2]
Charing-cross Hospital	20	12	25	1	58	85	45	64	34	96	239
The London Hospital	72	76	—	9	157	121	72	51	36	130	289
St. George's Hospital	22	3	—	2	27	†	25	35	44	†	†
Royal Free Hospital	25	16	—	—	41	†	25	25	36	59	145
Dental Hospital	—	—	45	—	45	†	45	43	—	—	—
National Dental Hospital	—	9	—	—	23	†	†	†	—	—	†
Royal Veterinary College	—	—	—	—	79	†	142	88	90	—	320
Cambridge	—	—	—	—	132	†	—	—	—	—	—
Durham	123	52	1	—	176	†	44	31	41	60	176
Mason College	36	38	7	13	94[4]	91	†	†	†	†	†
Bristol Medical School	16	—	—	20	36	30	†	†	†	†	†
Yorkshire College	34	7	1	18	60	68	†	†	†	†	†
Sheffield Medical School	10	1	—	3	14	†	15	10	12	28	65

[1] Including bacteriology. [2] This number must be taken as approximate.
[3] Exclusive of preliminary scientific students who entered for curriculum or special courses. [4] Entries not yet complete.
† Information not supplied.

Note.—At the moment of going to press we have received the returns from Owens College, Manchester. The new entries number 178—an increase of 22 as compared with those for the session 1892-93. The number of students attending the school is 261.

FUEL ECONOMY, SMOKE PREVENTION, AND THE UTILISATION OF HEAT.

WHEN statistics show that every year the health and well-being of the inhabitants of London are seriously affected by the annual onset of fog, the importance of investigating the subject with the view of discovering a remedy cannot be questioned. Fog is the inevitable accompaniment of meteorological changes in temperature and pressure, and changes due to natural causes cannot well be avoided; but it must be confessed that the circumstances to which the London fog owes its unenviable character are due to a wanton disregard of the conditions necessary for the combustion of solid fuel. In the ordinary fireplace the distillatory products of coal are so rapidly cooled at the top of the fuel in contact with the air that smoke, carbonic oxide, and unsaturated hydrocarbons are formed in abundance and carried away through the chimney into the atmosphere. Thus in the present system of burning coal, not only is the fuel wasted, but valuable heat is lost, and, worse than that, the air is seriously vitiated. A system productive of such unsatisfactory results is surely wrong. If we were to imagine for a moment that the atmosphere was composed entirely of oxygen we should see that smoke and its attendant products could never be produced, because the heat effected by the rapid consumption of the coal would be of sufficient intensity to convert the intermediate products that are always formed into products of complete oxidation, oxygen being present in excess. But the atmosphere contains a diluent in the form of nitrogen, which not only reduces the vigour of the combustion but tends in no small degree to lower the temperature of the reaction between the fuel and the oxygen, so that the intermediate products are not heated sufficiently to combine with the oxygen, or else if this condition is satisfied they are starved of oxygen; in either case, unburnt products escape into the air. These intermediate products, or products of the distillatory changes of coal, are the chief constituents of smoke, which give to natural fog the intense dark-red colour (sometimes quite opaque), the sulphurous taste, the choking, disagreeable, sooty smell, and the irritant qualities which unfortunately characterise the fogs of London. The injury done to health is, however, largely due to the density and opacity of the fog, by which the active health-giving rays of the sun are sometimes for days completely shut off.

The solution of the difficulty, we venture to think, lies, not in preventing the formation of smoke or the products referred to, but in destroying the smoke at the moment of its birth by causing it to be mixed with a sufficiency of atmospheric oxygen, and raising the mixture to the temperature necessary for combination by compelling the unburnt gases to pass through the fire. We have shown in former articles that this is practically accomplished in the range invented and introduced by Messrs. Leggott and Marsh. This range was examined and duly reported upon by THE LANCET Commission,[1] and while it was found to produce no smoke or soot, numerous analyses undertaken by the Commission showed also the complete absence of objectionable gases in the products of combustion. In fact, the gases going to the flue consisted entirely of carbonic acid, air, and nitrogen. This result was due to the ingenious yet simple construction of the stove, which, as regards outward appearance, however, presented little difference from the ordinary range. In the place of bars there are "louvres," as they are aptly called, which consist of three flat plates of iron adjusted in front of the fire in the manner of the bars of a venetian blind, which when opened act like a hopper in allowing the air to play *down* upon the fuel. By opening or closing the louvres (and they may be closed entirely) the rate of combustion can be regulated to a degree. The firebox itself is closed at the top and is divided down the middle by a septum of fire-clay which is suspended from the top and which runs to within a short distance of the bottom, so that the divisions are comparable to the two limbs of a syphon; in other words, the firebox may roughly be regarded as V-shaped. When starting the fire a quantity of small coal is placed in the bottom of the grate as far up as the end of the dividing piece, or, as we may call it, the "smoke trap"; wood is next put upon the coal, and finally the paper on the wood—precisely the reverse of the usual method. On lighting the paper the flames are immediately drawn down to the wood and thence to the coal, and a bright, cheery fire is obtained in a surprisingly short time. Meantime the air is playing down upon the fuel through the louvres, and the moment that distillatory changes commence the resulting products are carried on with air through the hottest part of the fire, where they are converted into the complete products of combustion—carbonic acid and water. In other words, part of the coal is converted into inflammable gas, which, instead of escaping, burns at the back of the fire. As combustion is complete it follows that there are a great economy of fuel and a maximum yield of heat. A description embodying all these details was, however, given in the report of THE LANCET Commission[2] alluded to, but the principle at the time of the investigation was only applied to the kitchen range. Since then it is interesting to learn that the range has been in use in a large number of kitchens with very satisfactory results. It burns the cheapest quality of coal, slack or small coal—which in normal times may be had at 12*s.* 6*d.* a ton—being well adapted for the kitchener. We ventured the hope and expressed the probability of the same principle being applied to a stove adapted for warming the air of rooms; but, of course, the construction of a stove for this purpose would obviously have to undergo some modification in its structure, but it is interesting to add that our speculations in this direction have been realised and our theories satisfactorily confirmed. Quite recently we have watched the working of a stove made on these lines, but also suitable for the drawing-room, and we find that in spite of its more open construction, so that the cheery appearance of the glowing coal is not obscured, the results are just as satisfactory as regards the completeness of combustion as those already described when the kitchen range was under examination. A further important improvement, by which a greater utilisation of the heat is effected, consists in attaching at the back of the grate a chamber, and providing flues running under the floor to supply this chamber with fresh air from the outside atmosphere. The fresh, cold air enters through the flues on either side of the stove, ascends into the chamber and becomes warmed, and passes out into the room. Ventilators are also provided at the bottom of the stove, so that if necessary fresh air may be made to come in without circulating through the warm chamber. This arrangement provides for a constant supply of fresh air into the room of a temperature equal to the outside air or of a degree as high as is desirable for healthy inspiration. This system, with its latest improvements, is therefore of the greatest hygienic importance, since by its adoption, not only is fuel economised and smoke not produced, but the maximum calorific effect of the fuel is obtained, the heat being utilised to accomplish the efficient ventilation and warming of the room.

We may justly express our gratification of the fact that a system which we voluntarily undertook to investigate and to submit to a laborious set of experiments has proved to be right in theory and practice, and if the solution of the fog question is to be found in the rational and efficient use of coal as fuel we shall have the satisfaction of knowing that we have had some share in indicating a way to secure this end, so that the intolerable evil of smoke may be largely, if not wholly, mitigated, the foul fog fiend exorcised, and London freed from the unhealthy outpourings of a legion of chimneys. The rest we must leave to legislation.

[1] THE LANCET, March 5th, 1892.
[2] THE LANCET, March 5th, 1892.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

THE autumnal general meeting of this Association was held on Wednesday, Oct. 25th, Professor Cuming, M.D., the President, and a large number of members being present. Subsequently the autumnal dinner was held in the Egyptian Saloon of the Café Monico. Covers were laid for seventy-eight members and their guests, and the *réunion* was one of the most successful and enjoyable ever given by the Association. The President occupied the chair, and seated to his right were Sir William Broadbent, Sir T. Crawford, and Drs. W. Henry, Hare, Cantrell, and Mapother. On the left of the chair were Surgeon-Colonel Hamilton, Drs. Heath and Stephen Mackenzie, Professor Ayrton, F.R.S., Dr. Charles, Professor Perry, F.R.S., Mr. E. Hart, Dr. Ernest White, Mr. Glas, Dr. Lough, and Dr. E. A. White. Among the other members and guests present were Mr. Hartt, Brigade-Surgeon-Lieutenant-Colonel Gribbon, Mr. Kenneth Campbell, Captain Palmer, Surgeon-Major Lamprey, A.M.S., Dr. Starling, Mr. Noble, Dr. Dixon, Dr. Tabb, Dr. McCaskie, Dr. Lehane, Dr. Leith Napier, Dr. W. H. Bourke, Mr. Keetley, Dr. Abraham, Dr. Alderson, Mr. Odell, Professor W. H. Thompson, Dr. Vaughan Harley, Professor Boyce, Dr. Wells, Dr. Waterhouse, Brigade-Surgeon-Lieutenant-Colonel O. M. White, Dr. Stewart, Dr. Cagney, Dr. Cullingworth, Mr. Battle, Surgeon-Major Carte, Grenadier Guards; Mr. Martin, Mr. P. Hayes, Dr. T. C. Hayes, Dr. Burghard, Dr. C. W. Hamilton, Dr. Davison, Captain Webster, Mr. Campbell Boyd, Dr. H. G. Thompson, Dr. O'Callaghan, Rev. R. O'Callaghan, LL.D., R.N., Captain Milner, Mr. R. J. Swan, Mr. and Mrs. Macdonogh, Surgeon-Captain Stoney, A.M.S., Miss Chapman, Dr. and Mrs. Hadden, Dr. and Mrs. Stoker, Dr. and Mrs. Esler, Mrs. Belas, Miss Widdup, Dr. Burkitt, Dr. and Mrs. Beale, Mr. Bokenham, Dr. McKinley, and Dr. and Mrs. W. P. Morgan. Toasts were proposed and responded to by the President, Dr. Lough, Surgeon-Colonel Hamilton, Dr. Richard Heath, Sir William Broadbent, Professor Ayrton, F.R.S., Mr. E. Hart, and Mr. Keetley. Excellent songs and recitations were contributed by Mr. G. L. Bokenham, Mr. W. B. Martin, Mr. P. Hayes, Dr. Cullingworth, Mr. Odell, and Surgeon-Major Carte.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Bolton Urban Sanitary District.—With a population over 116,000, Bolton yielded during 1892 a general death-rate of 22·7, an infantile mortality of 185, and a zymotic death-rate of 3·29. All these are rates which place Bolton in a not very enviable position among the thirty-three large towns. Two cases of typhus fever occurred during the year, one of which was supposed to have been contracted in Birmingham. The deaths from typhoid fever were evidently fewer than in 1891, and in this connexion it may perhaps be mentioned that since 1891, as a result of Dr. Adams's suggestion, improvements

have been made in the catchment area of the water-supply. During 1892 Dr. Adams has had a series of observations conducted with a view of demonstrating that "practically complete abolition" of smoke is possible by the use of a proper apparatus. As a result of his observations and investigations, which are tabulated in the report, he regards the apparatus made by Messrs. Cass, Sinclair, and Vicars as the most efficient, and an illustration and short description of each is given for the information of those interested in the subject. The principle—that of coking the fuel—is the same in all, and the chimneys of the factories using them are stated, as a result of a whole day's observation, to be "practically smokeless."

West Sussex Combined Sanitary District.—This exhaustive report deals with the sanitary condition of no less than ten districts—i.e., Steyning, Horsham, Petworth, Fakenham, East Preston, Midhurst, and Westbourne rural districts, and Worthing, Littlehampton, and Arundel urban districts. The total population of the combined district was in 1891 106,476, figures which show an increase of 8987 since 1881. This increase has been confined almost entirely to the urban districts, the rural ones having remained almost stationary during the last decade. The death-rates of the various districts varied from 12·4 in Littlehampton to 18·5 in Horsham, that of the whole combined district amounting to 16·6. No less than 41·3 per cent. of the death-rate took place in the first quarter as against 18·0 in the third, the great excess in the first being due to the prevalence of influenza. The infantile mortality of the several districts ranged from 58 per 1000 births in Arundel to 131 in Steyning. The Infectious Diseases Notification Act, 1889, is in force throughout the whole district, with the exception of the urban sanitary district of Horsham. It appears that in the whole of the combined district there is not one isolation hospital. A considerable nuisance seems to be occasioned in Shoreham Harbour by the decomposition of stagnant seaweed mixed with the contents of drains which discharge upon the banks, and Dr. Charles Kelly, in company with Mr. Kempe (the port sanitary medical officer of health of New Shoreham), recently made a special report upon the subject. During the last six or seven months of 1892 several cases of enteric fever occurred in West Worthing. The attacks took place at varying and distant periods and thus presented rather a unique aspect. It appears, however, that a clue to the possible causation of the attacks was discovered by the occurrence of some cases at West Tarring, a parish lying north of West Worthing. The only point of common danger between these two places was the water derived from the West Worthing Waterworks Company. The source of this water was not open to suspicion, but on turning attention to its distribution Dr. Kelly discovered that there was considerable risk of pollution from the presence of the ball hydrants, which, during the time when the water was turned off, allowed surface water to pass into the main. As a consequence of this, Dr. Kelly concludes, the appearance and cessation of the fever cases may be dependent upon the pollution of the mains in wet weather and their non-pollution in dry. This of course may be so, but the position of the hydrants would hardly appear to be such as to court specific pollution. As a consequence of the risks which these ball hydrants necessitate, Dr. Kelly advises the substitution of a better form. He visited all the public elementary schools in Worthing, and the report which he issued thereon shows that there, as elsewhere, there is room for considerable improvement in their sanitary condition. There are many matters of interest discussed in Dr. Kelly's various reports, but space precludes our noticing them further.

Dublin Urban Sanitary District.—The general death-rate of the city of Dublin for 1892 was 28 4, and of the total number of deaths which occurred no less than 31·4 per cent. took place in public institutions. This proportion is nearly twice as great as that which obtains in English towns. The total zymotic death-rate was 2 9 per 1000, the rate in the city being 3·5 and that in the suburbs 1 3. There were eight fatal cases of typhus fever in Dublin during 1892. In discussing infantile mortality Sir Charles Cameron points out that if it were not for the enormous fecundity of the working classes they would not, owing to their large infantile mortality, be able to maintain their present numerical relations with the richer classes. The infantile mortality for 1892 was 179 per 1000 births, as against 165 for 1891. The notification of infectious diseases in Dublin is, Sir Charles Cameron states, not carried out very satisfactorily. Many cases appear not to have been notified at all, and simple gastric disturbances were not infrequently returned as typhoid fever. While advocating the erection by house-owners of washhouses situated in the yards attached to houses, Sir Charles Cameron draws attention to the fact that washing performed in the dwellings of the poor tends to damage the walls, floors and ceilings, as well as to injure the health of the inmates.

Nottingham Urban Sanitary District.—Dr. Philip Boobbyer in advocating the re-vaccination of tramps expresses the opinion that they should be regarded as "other social pests, or, at any rate, rendered as harmless as possible." We have on several occasions referred to the great influence which tramps have had in spreading small-pox about the country, and have drawn attention to the excellent example set by the Jewish board of guardians at Manchester, from whom no relief is procurable unless a certificate of successful vaccination or re-vaccination, as the case may be, is produced. The Borough Isolation Hospital at Bagthorpe appears to be a great success, and during the year 1892 no less than 88 per cent. of the notified cases were isolated. Dr. Boobbyer refers in some detail to the occurrence of secondary cases of infectious disease in houses to which patients from the Fever Hospital have recently returned, and he points out the enormous difficulty which undoubtedly exists in ensuring proper disinfection of the discharged patients. We, however, referred briefly to this subject in an annotation in THE LANCET of Oct. 21st. Amongst the additions which have been made to the staff during the year is that of a female inspector under the Factory and Workshops Acts, and the appointment seems o have given satisfaction.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6198 births and 3652 deaths were registered during the week ending Oct. 21st. The annual rate of mortality in these towns, which had declined from 20 2 to 18 2 per 1000 in the preceding three weeks, rose again to 18·4 last week. In London the rate was 18·8 per 1000, while it averaged 18·2 in the thirty-two provincial towns. The lowest rates in these towns were 11 8 in Derby, 12 9 in Croydon, 13 1 in Birkenhead, 13 2 in Cardiff, and 13·3 in Brighton; the highest rates were 24 7 in Liverpool, 25·4 in Wolverhampton, 25 6 in Sunderland, 26 1 in Salford, and 26 9 in Blackburn. The 3652 deaths included 508 which were referred to the principal zymotic diseases, against 543 and 544 in the preceding two weeks; of these, 135 resulted from diarrhœa, 103 from diphtheria, 82 from "fever" (principally enteric), 79 from scarlet fever, 65 from whooping-cough, 37 from measles, and 7 from small-pox. The lowest death-rates from these diseases were recorded in Derby, Plymouth, Swansea, Halifax, and Newcastle-upon-Tyne; the highest rates in Sunderland, Wolverhampton, Hull, Gateshead, and Blackburn. The greatest mortality from measles occurred in Norwich; from scarlet fever in Wolverhampton, Nottingham, Liverpool, and Burnley; from whooping-cough in West Ham and Oldham; from "fever" in Wolverhampton, Salford, Huddersfield, Leeds, Hull, and Gateshead; and from diarrhœa in Sunderland, Gateshead, and Blackburn. The 103 deaths from diphtheria included 84 in London, 2 in Brighton, 2 in Leeds, and 2 in Manchester. Four fatal cases of small-pox were registered in Bradford, 1 in West Ham, 1 in Birmingham, and 1 in Leeds, but not one in London or in any other of the thirty-three large towns. There were 76 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 21st inst., against 77, 79, and 84 at the end of the preceding three weeks; 12 new cases were admitted during the week, against 15, and 17 in the preceding two weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2758, against 2815, 2801, and 2785 on the preceding three Saturdays; 304 new cases were admitted during the week, against 305 and 316 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 230 and 235 in the preceding two weeks, further rose to 277 last week, but were 49 below the corrected average. The causes of 77, or 2·1 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Leicester, Leeds, Sunderland, and in nine other smaller towns; the largest

proportions of uncertified deaths were registered in Birmingham, Nottingham, Halifax, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined in the preceding three weeks from 19·6 to 18·4 per 1000, rose again to 18·6 during the week ending Oct. 21st and was slightly above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 16·6 in Paisley and in Greenock to 20·5 in Dundee and 22·0 in Leith. The 525 deaths in these towns included 25 which were referred to diarrhœa, 14 to whooping-cough, 11 to scarlet fever, 9 to "fever," 5 to diphtheria, and not one either to measles or small-pox. In all, 64 deaths resulted from these principal zymotic diseases, against 82 and 64 in the preceding two weeks. These 64 deaths were equal to an annual rate of 2·3 per 1000, which was 0·3 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had declined from 81 to 18 in the preceding six weeks, rose again to 25 last week, of which 9 occurred in Glasgow and 6 in Edinburgh. The 14 deaths referred to whooping-cough exceeded by 3 the number recorded in the preceding week, and included 7 in Glasgow. The fatal cases of scarlet fever, which had been 5 and 11 in the preceding three weeks, were again 11 last week, of which 8 occurred in Glasgow. The 9 deaths referred to different forms of "fever" showed a slight further decline from those recorded in recent weeks and included 3 in Paisley, 3 in Glasgow, and 2 in Edinburgh. The fatal cases of diphtheria, which had been 7 and 12 in the preceding two weeks, declined again to 5 last week, of which 2 occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 105 and 95 in the preceding two weeks, rose again to 106 last week and exceeded by 9 the number in the corresponding week of last year. The causes of 52, or nearly 10 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 23·3 and 24·5 per 1000 in the preceding two weeks, was again 24·5 during the week ending Saturday, Oct. 21st. During the first three weeks of the current quarter the death-rate in the city has averaged 24·1 per 1000, against 18·2 in London and 18·5 in Edinburgh. The 164 deaths registered in Dublin during the week under notice corresponded with the number in the previous week and included 22 which were referred to the principal zymotic diseases, against 28 and 21 in the preceding two weeks; of these, 9 resulted from "fever," 7 from diarrhœa, 4 from whooping-cough, 2 from measles, and not one either from small-pox, scarlet fever, or diphtheria. These 22 deaths were equal to an annual rate of 3·3 per 1000, the zymotic death-rate during the same period being 2·9 in London and 2·5 in Edinburgh. The deaths referred to different forms of "fever," which had increased from 6 to 10 in the preceding three weeks, were 9 last week. The 7 fatal cases of diarrhœa corresponded with the number recorded in the preceding week. The deaths from whooping-cough, which had been 6 and 3 in the preceding two weeks, rose again to 4 last week. The 2 fatal cases of measles exceeded those recorded in any recent week. The 164 deaths registered in Dublin last week included 31 of infants under one year of age, and 41 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons exceeded those recorded in the preceding week. Ten inquest cases and 8 deaths from violence were registered; and 57, or more than a third, of the deaths occurred in public institutions. The causes of 12, or more than 7 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

MOVEMENTS IN THE MEDICAL STAFF.

SURGEON-CAPTAIN S. E. DUNCAN, having returned from temporary duty at York, is posted to the Medical Division, R. V. Hospital, Netley, and will resume command of No. 5 Company, Medical Staff Corps. Surgeon-Captain Graham has embarked to resume his duties with the Egyptian Army after leave of absence. Surgeon-Captain Windle has been transferred from the North-Western District to Aldershot; Surgeon-Lieutenant Moore from the North-Eastern District to Netley; Surgeon-Captain Nunnerley from Wakefield to Preston; Surgeon-Major Foss to Templemore, and Surgeon-Major Fox and Surgeon-Lieutenant Symons to Cork. The following officers have resumed their duties after leave of absence: Surgeon-Major Poole, Eastern District; Surgeon-Major Hubbard, Woolwich; Surgeon-Major O'Connell, Curragh; and Surgeon-Captain Sloggett, Southern District.

ARMY MEDICAL STAFF.

Surgeon-Lieutenant-Colonel Francis George Adye-Curran, M.B., F.R.C.S.I., retires on retired pay. Surgeon-Major Ernest F. Smith retires from the Service, receiving a gratuity.

INDIA AND THE INDIAN MEDICAL SERVICES.

The following appointments are announced: Surgeon-Captain J. Morwood, Civil Surgeon, Sultanpur, to officiate as Superintendent, Central Prison, Benares, during the absence on leave of Mr. F. W. Higginson, F.R.C.S.I. Surgeon-Lieutenant-Colonel J. McConaghey, Civil Surgeon, Allahabad, to hold Visiting Medical Charge of the Fatehpur District, in addition to his other duties, *pro tem.* Surgeon-Major M. L. Bartholomeusz, M.B., C.M., having completed twenty years' full-pay service, to be Surgeon-Lieutenant-Colonel. Surgeon-Major B. McCalman and Mr. D. C. Davidson have respectively taken over and received Charge of Dharwar Gaol. Leave has been granted to Surgeon-Major J. C. C. Smith, Civil Surgeon, Budaun, for seven months. Surgeon-Major R. Manser, M.D., First Physician, Jamsedji, Jijeebhoy Hospital, Bombay, has privilege leave of absence for three months. Surgeon-Major F. P. Maclean has been granted an extension of leave from Sept. 26th to Nov. 25th, 1893, on medical certificate. The leave on urgent private affairs for six months granted to Surgeon-Lieutenant-Colonel W. E. Johnson, M.D., I.M.S., has been converted into nine months' furlough on medical certificate.

NAVAL MEDICAL SERVICES.

The following appointments are announced: Fleet-Surgeon T. L. Horner, to the Keyham Barracks. Surgeons: Timothy J. Crowley, to the *Barham;* Edward H. M'Sherry, to Haulbowline Hospital; H. W. Macnamara, to the *Bramble,* for the *Cormorant;* H. W. Finlayson, to the *Royal Sovereign;* A. M. Page, to the *Barracouta;* E. J. Morley, to Plymouth Hospital; J. H. Thomas, to the *Tyne;* H. S. Archdall, to the *Rupert;* and E. B. Pickthorn, to the *Durham.*

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Edward Cureton, to be Surgeon-Major.

VOLUNTEER CORPS.

Rifle: 4th Volunteer Battalion, the Queen's (Royal West Surrey) Regiment: Surgeon-Captain R. C. Lucas, M.B., resigns his commission; Surgeon-Lieutenant J. Martin resigns his commission. — 4th Volunteer Battalion, the Cameronians (Scottish Rifles): George McIntyre, M.B., to be Surgeon-Lieutenant.

THE INDIAN MEDICAL SERVICE.

The principal medical officer of the Madras Army has recommended that the rules governing promotion be amended and assimilated to those of the Army Medical Staff. The Surgeon-General with the Government of Madras was not able, however, to endorse this recommendation, and the Government of India has expressed the opinion that it is not desirable to recommend any change in the system of promotion of officers of the Indian Medical Service, a large proportion of whom are not constantly in military employ, and more especially as the Royal Warrant (of December, 1891) bearing on the question appears to have been advisedly drawn up in its present form.

THE RUSSIAN NAVAL SURGEONS IN FRANCE.

Amid the various demonstrations, festivities, and rejoicings that have taken place in France on the occasion of the visit of the Russian Fleet to that country the fact should be recorded that the French naval surgeons at Toulon entertained their *confrères* of the Russian service. The surgeons of the Russian fleet at Toulon were invited to visit the great naval hospital at St. Mandrier on the 21st inst. This hospital is a very large and expensively equipped building, which, with its offices and establishment, occupies a beautiful site immediately opposite the city of Toulon. It is equipped for 600 beds at the present time. The Russian medical officers, after being conducted over the institution and inspecting its arrangements, were entertained at luncheon.

FIELD SERVICE COOKING.

According to the *Militär-Wochenblatt* aluminium is being tried in Germany as a material for cooking-utensils, and an aluminium field-canteen for officers has been brought out by a firm under the supervision of a medical officer of the German army. The lightness of the metal is an important consideration from the army transport standpoint, and it is said—contrary to what might have been expected—that, from experimental trials in the German army, aluminium vessels have shown themselves to be durable and adapted to field service work, in addition to being easily cleaned, not liable to rust, and not giving rise to any product deleterious to health when used for cooking purposes. It is also stated that experiments made with cooking apparatus composed of this metal in the Hygienic Laboratory of Berlin have proved to be satisfactory.

THE HEALTH OF THE BENGAL ARMY.

The contrast between what is called a "cholera year" and a "non-cholera year" in India is very striking. The conditions remain apparently the same in both years. There are always some cases of cholera in Lower Bengal and in the so-called endemic area, and the communications between this part and the rest of the Presidency and up-country provinces practically do not vary; but the prevalence of the disease does vary enormously in different years. The health of the army in Bengal has lately, and still continues to be, remarkably good, not a single case of cholera having been reported, according to the latest Indian papers, during September.

THE RETIREMENT OF SURGEON-COLONEL RICHARDSON, INSPECTOR-GENERAL OF CIVIL HOSPITALS IN THE NORTH-WEST PROVINCES AND OUDH.

The Lieutenant-Governor and Chief Commissioner of the North-West Provinces and Oudh, in publishing a letter from the Government of India in the *Provincial Gazette* regarding the retirement of this officer, expresses the great regret that is felt at the loss of his services and passes a high encomium on the professional and administrative ability which he has shown. The communication from the Governor-General in Council directs attention to the fact that Surgeon-Colonel Richardson had been connected with those provinces for nearly thirty years, having also temporarily officiated as Surgeon-General and Sanitary Commissioner with the Government of India, and refers to the valuable services rendered by him, adding also that his ability and experience were highly valued by the Governor-General in Council.

Correspondence.

"Audi alteram partem."

SEA VOYAGES AND PHTHISIS.

To the Editors of THE LANCET.

SIRS,—Mr. Leopold Hudson, in a note to his valuable communication on "Sea Voyages for the Surgical Convalescent" in THE LANCET of Oct. 21st says: "But Dr. Burney Yeo doubts whether phthisis at any stage is benefited by ocean travel." This is not quite accurate. I have expressed myself on this subject[1] as follows: "One or two long sea voyages, or a sea voyage to Australia or New Zealand, followed by an out-of-door life in suitable parts of the interior of these colonies, may be recommended to the same class of cases," and in the preceding paragraphs I have defined this class as "cases of early phthisis in persons of otherwise good health and possessing abundant capability of taking active exercise and following an out-of-door country life. The disease should be limited, non-progressive, and quiescent, or but very slowly advancing and with little or no fever." In a note I add, "We desire to protest in the strongest terms against the *routine* prescription of a 'sea-voyage' to young men the subjects of phthisis. It is both cruel and ignorant. We have just heard of two young men, one of whom we knew, who had been ordered a sea-voyage and who met in the same cabin in a sailing vessel; they both died long before the vessel reached its destination. This is a common experience." I have only protested, and I shall continue to protest, against the routine practice of prescribing a sea-voyage for the subjects of phthisis without discrimination and without a knowledge of the tragic results which frequently attend it.

I am, Sirs, yours truly,

Hertford-street, Mayfair, Oct. 24th, 1893. J. BURNEY YEO.

[1] Manual of Medical Treatment, vol. ii., p. 118.

MATERIALISM AND LIFE.

To the Editors of THE LANCET.

SIRS,—The question so innocently and so deftly raised by your correspondent "X"—whether life and mind are the same thing—is certainly one easier to ask than to answer. It is a pity that so expert a cross-examiner and so cautious a critic should treat the subject so lightly. His reference to the mole and fœtus strikes one as original, and, if he added a few reflections, it might serve to throw additional light on so abstruse a subject. But whatever the decision may be it is all important to note the grounds on which it rests. Such a discussion inevitably raises the question, what are the limits of science? To this Professor Tyndall unhesitatingly replies,[1] "In all such inquiries we are necessarily limited by our own powers; we observe what our senses, armed with the aids furnished by science, enable us to observe, nothing more." In thus strictly limiting scientific investigation and research to the study of phenomena science is perfectly justified, for the causes of phenomena lie beyond the jurisdiction of the senses. By tracing each phenomenal consequent to its antecedent the scientist obtains a prevision over nature, and is thus enabled to anticipate the future. But do modern scientists confine themselves within these limits? On the contrary, they postulate as explanatory of the various phenomena, atoms, forces, &c., none of which are objects of the senses. To this course they are compelled in consequence of an intellectual necessity by means of which the human mind cannot contemplate phenomena other than as relative to a power which issues them. To account, therefore, for the different sets of phenomena, science postulates the various forces—chemical, electric, &c. The powers themselves are, however, as inscrutable as a soul. Man obtains his knowledge of power not by an induction from nature, but in consequence of his own exercise of power. Herein lies man's special prerogative, which invests him with a trust and exempts him from absolute subjection to the laws of nature. But are mental functions the result of molecular processes in the brain or are they affections and activities of a mental subject? Laying aside at present the important argument in favour of a mental subject arising from the law of the conservation of energy, a few of the discoveries of modern science seem to me to point clearly to the existence of a mental subject, and are simply unintelligible apart from that supposition. The secondary qualities of matter—colour, heat, &c.—are affections of a mental subject, and are due to various "modes of motion." Apart from a mental subject they do not exist. Even in regard to the primary qualities of matter it is now shown that the atoms are not in contact, but are kept apart and in position by various forces. Accordingly the solidity of the mass is not due to the sum of the solidities of the atoms, but is the product of a dynamism which binds the elements together. Moreover, the nervous system stands between the external world and mind. Light vibrations impinging on the retina and sound waves on the tympanum are conveyed thence, as nerve currents to the brain, and these communicate to the mind the sensations of vision and hearing. Apart from a mental subject to translate the various nerve currents into their mental equivalents sensation would be impossible.

Here, however, I must note an objection raised by my cautious critic. On the supposition that life and mind are two different things, he concludes thus: "It follows from this that in all of us outside the powers connected with our organisation there are two others in operation, but in no way dependent upon it; one is life and the other is mind." These powers evidently do nothing and explain nothing in connexion with the organism. In striking contrast to the fierce struggle for existence which rages outside, these highly favoured individuals stand aloof not unlike a pair of cooing turtle-doves that never take to quarrelling. On these terms it is no wonder that the "powers connected with organisation," which do all the drudgery work, should turn indignant with their superfluous lodgers, and should

[1] Fragments of Science, vol. ii., page 246, sixth edition.

strive with might and main to turn them out to find shelter elsewhere. The mind, however, I take it, is not so independent as all this of the bodily organism; while, on the one hand, the body acts on the mind, there is, on the other, ample evidence that the mind acts on the bodily organism. Attention can modify sensation. In a scuffle a man may receive a dangerous wound, yet in the excitement of the moment remain in ignorance of what has taken place. Again, in connexion with an outbreak of yellow fever amongst an English crew in the tropics, it was distinctly noted at the time that the most panic-stricken with terror were the most liable to suffer, and the most likely to succumb to the deadly scourge. Again, in disease it is often seen that a strong will can considerably modify its course. This is well illustrated by the remark of a professor who addressed his students thus: "Some of the worst patients you will find are those who trust too much to fate, and then lay down in their beds and die." From these considerations, I conclude that mind, or the mental subject capable of experiencing sensations and exercising activity, is different from the vital force which weaves and builds the organisms both of men and of animals and plants. Having thus answered, or at least attempted to answer, the question which my cautious critic has put, may I be allowed in turn to ask two questions of him? Granted that mental phenomena are products of molecular changes in the brain, how on this supposition is it possible to connect the present with the past—that is, to explain memory? In recollecting an event that happened, say thirty or forty years ago, and as during that period the atoms and molecules of the brain have repeatedly shifted, how is it possible, in the absence of an abiding factor, rationally to connect the present with the past? Secondly, granted that thoughts and volitions are incapable of modifying the mechanism of nature, and, on the other hand, that they are the products of molecular changes in the brain, then, in precisely the same manner, truth, as well as error and superstition, are but products of the same molecular changes. How, on this supposition, is it possible on grounds of reason to separate truth from error and superstition, when reason and will are regarded as superfluous appendages to the mechanism of nature?

I am, Sirs, yours truly,

J. M. MACLENNAN, M.A., M.B.

Albert road, Widnes, Oct. 24th, 1893.

SCARLET FEVER AND RÖTHELN.

To the Editors of THE LANCET.

SIRS,—In view of the letter from Mr. Cullinan in THE LANCET of Oct. 7th, in reference to the differential diagnosis of scarlet fever and rötheln, the following case of rötheln may be of some interest as presenting characters very similar to those of scarlet fever. I was asked some time ago to see a child about ten years old three days after the appearance of a profuse rash. At the time I saw it the symptoms it presented were as follows. The temperature was 100·5° F. There was no sore-throat complained of, but the fauces were found to be reddened and the tonsils somewhat swollen, but not ulcerated. There was no coryza or other catarrhal symptoms, and there was no history of such. The body and most of the limbs were covered with a profuse rash. The rash was of a darker colour than is usually seen in scarlet fever, and was inclined to be patchy on the limbs, with defined margins, so that the unaffected skin between portions of the rash appeared white by contrast. From the character of the rash I pronounced the case to be one of rötheln. On the fifth day I found that the rash was fading. The temperature was 99·4°. On the eighth day from the first appearance of the rash the child began to desquamate pretty freely about the body and thighs, and on the hands and feet.

I then changed my diagnosis to that of scarlet fever and had the child removed to the sanatorium with other cases of the same kind. It continued peeling for three or four weeks.

About a month after the patient's admission I was informed by the visiting medical man that it had contracted well-marked scarlet fever. I cannot say whether the glandulæ concatenatæ were enlarged or not. If that is a certain point of distinction it will prove valuable, as it appears to me to be very difficult in some cases to form a correct diagnosis.

I am, Sirs, yours faithfully,

EDGAR R. IVATTS, M.R.C.S., L.R.C.P. LOND.

Ilford, Essex, Oct. 10th, 1893.

"ABDOMINAL SECTION IN PYLORIC ADHESIONS."

To the Editors of THE LANCET.

SIRS,—In your report of my paper at the last meeting of the Clinical Society I notice it is stated that peritonitis had occurred in both cases. This is a little misleading. What I meant to say was that peritonitis had occurred previously to operation in both cases, and that this was the cause of the adhesions. I am also said to have remarked that it was my impression in gall-stone cases that more benefit accrued from separation of adhesions than from removal of gall-stones. What I did say was that in *some* cases of cholecystotomy I thought that the separation of the adhesions had more to do with the cure of the patient than the removal of the stones, this referring chiefly to those cases where the gall-stones were simply in the gall-bladder and not in the ducts.

I am, Sirs, yours truly,

Hillary-place, Leeds, Oct. 24th, 1893. A. W. MAYO ROBSON.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Midland Medical Society.

THIS society is a flourishing association, now in its forty-fifth year of existence, with a membership roll of 325. The past session showed a record of eleven papers read, fifty-one cases and specimens exhibited, and general interest well sustained. The meetings are held in the evening of every second Wednesday, being well attended. At the inaugural meeting on Nov. 2nd Dr. Cullingworth is to deliver an address on Pelvic Abscess in the Female, and it is expected that there will be a large audience.

Spread of Infectious Disease.

At a meeting of the Health Committee of the Town Council, held on Tuesday, it was reported that 84 scarlet fever cases were admitted into the hospital in the past fortnight, making a total of 289 at present under treatment there; 40 new cases of small-pox were admitted in one week, 2 deaths occurred, and 94 cases are in the hospital. The committee are pushing forward two new pavilions for the accommodation of 100 cases at Yardley, thus affording a practical and useful commentary on the above noted increase in the number of cases.

Athletic Institute.

Sir B. W. Richardson gave the first of a series of free health lectures at this institute on the 19th inst., selecting as his subject "Athletic Life: For and Against." There was a large and appreciative audience, who applauded the eloquent address and practical deductions put so clearly before them. A large and important work is being done by the committee, and the programme for the session is replete with attractions of various kinds.

Hospital Sunday.

The annual collection for this cause takes place on the 29th inst., and this year is for the Queen's Hospital, an institution than which there are few more deserving. The present state of trade militates against all charitable tendencies, but it is hoped that the urgent needs of the hospital will slacken the restrictions placed upon the pocket from such causes.

Oct. 26th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Bacteriology at Owens College.

THE events of the recent diarrhœa season both here and elsewhere have been fruitful in at least one direction—they have taught us that the preventive machinery of no large community can be considered complete unless its health department has been furnished beforehand with effective means for the prompt bacteriological examination of dejecta from persons suspected of being the subjects of choleraic disease. In Manchester, thanks to the courtesy and public-spiritness of the Professor of Pathology at Owens College, such examinations have been conducted with great despatch and thoroughness in every case in which that course has been thought necessary by the medical officer of health,

the result being that in certain cases (few in number) the disease from which the patients suffered has been found to be indistinguishable from Asiatic cholera. The danger of a serious cholera epidemic in Manchester has now apparently passed as far as the current year is concerned. There is, consequently, danger lest the protective efforts which have been set on foot, mainly through the definite information supplied by Dr. Delépine, should be appreciated by the public less highly than they deserve to be, especially as there appears to remain no immediate cause for further alarm; but, at any rate, the medical profession of Manchester will know how to appraise at its true value the conduct of a busy professor, who voluntarily, and without previous agreement, has held himself in constant readiness to assist the medical officer of health in his efforts to protect the population of our great city against the ravages of cholera. In a previous communication readers of THE LANCET were informed that the authorities of Owens College were engaged in a very considerable extension of laboratory and class-room accommodation for their medical department. The alterations and additions to the buildings are by no means complete at the present time, although it was hoped that they would be ready by the opening of the present winter session. It has, however, been an open secret for some time that the pathological department of the College has been inconveniently cramped for room. It is also known that, in order to meet the demands of the rapidly increasing number of students for instruction in this important branch of medical education, considerably increased accommodation is needed for the pathological department in the buildings now being added to the medical department of the College. As the teaching of bacteriology in Manchester, as elsewhere, is regarded as part of the duty of the Professor of Pathology, this fact should have due weight with the College authorities in apportioning the necessary space and accommodation for the pathological department. Moreover, inasmuch as the public health authorities of Manchester are directly interested in securing the completeness and efficiency of this department, so far, at any rate, as its bacteriological side is concerned, it is to be hoped that the corporation through their representatives on the governing body of the College will take care that the department does not lack the necessary funds for its satisfactory equipment with the most recent and best apparatus for bacteriological study and research.

The Diarrhœa Season.

Judging by the most recent returns of the medical officer of health, the diarrhœa season in Manchester may now be considered at an end for this year. The weekly deaths from diarrhœa and English cholera have now fallen to almost normal proportions, and the deaths of infants from diarrhœal disease scarcely exceed the average for this season of the year. The sanitary authorities of the city, wisely profiting by the lessons of the last few months, have decided to continue for some weeks yet to exercise every possible precaution against a return of suspicious diarrhœal or choleraic disease in Manchester. For instance, they are still circulating handbills setting forth the necessity for measures of cleanliness in the preparation and storage of food and milk, for the early and prompt treatment of cases of bowel disorder, and for the immediate removal of nuisances injurious to health. They still continue to supply a simple form of aromatic astringent mixture to those of the public who are unable to obtain medical aid in the ordinary way, and they exercise every precaution in the removal and disinfection of excreta from the dwellings of those who have suffered from an apparently suspicious form of diarrhœal disease.

Small-pox.

At the last meeting of the Manchester board of guardians it was reported that a case of small-pox had just been admitted to the workhouse infirmary, no previous cases of that much dreaded disease having been reported in Manchester for several weeks past. From what transpired at the board meeting it does not appear that the case was a severe one, and it is not believed that the disease is likely to spread at the workhouse.

Oct. 24 h.

FOOTBALL CASUALTY. — During a match in Cardigan Fields, Leeds, on Saturday last, a youth sustained a fracture of the leg, and was removed to the infirmary.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Water-supply of Newcastle-on-Tyne.

THE Water Committee of the corporation, together with the directors of the Water Company, made last week an inspection of their reservoirs at Whittle Dene, near this city. One of the reservoirs, known as the Great Southern, has water pumped from the Tyne near Wylam, and it is said to be used only for trade or manufacturing purposes. It is estimated that there is water sufficient for thirty days; indeed, some of these great reservoirs were at the time of the inspection half full of water, and the gathering grounds are so extensive that a few showers during the day materially increase the store. The late Alderman Cail (who died rather suddenly last week) was for many years the advocate of having the city supplied directly from Ullswater, and now his views are receiving attention, to be forgotten, I suppose, when the present drought has passed away. This water question must be faced by our authorities very soon, owing to the great increase of this city and district. The occurrence of one case of cholera about the pumping station at Wylam, for instance, might serve to propagate the disease in Newcastle very readily. We look upon the pumping of Tyne water, or its running through the pipes at all, with very grave suspicion. If the town had Ullswater as a source it would be provided with a great natural reservoir nine miles long, and its very overflow, if impounded and filtered, would afford an abundance of water for years to come.

Durham University.

Mr. H. Fielden, son of Dr. Fielden, of Shildon, Bishop Auckland, is the winner of the Durham University Medical Scholarship, which is of the value of £100 Lord Ravensworth presided at a meeting held in the Old Castle, Newcastle, on Saturday last, at which it was decided to perpetuate the memory of the late Dr. J. C. Bruce by placing a recumbent statue of him in St. Nicholas's Cathedral. A sum of £500 is required for the purpose. At one time it was contemplated to build a new wing to the Newcastle Royal Infirmary, an institution with which he was so long and intimately connected, but trade depression unfortunately prevented the fulfilment of this intention.

Presentation to Mr. R. S. Davison of Newburn.

Mr. R. S. Davison, surgeon, of Newburn, near Newcastle, who is retiring after having practised his profession in the neighbourhood for over fifty years, was the recipient of a testimonial, consisting of an illustrated address and a carriage. Several members of his family also received valuable presents. The presentations were made by the vicar of the parish, and it was stated at the large meeting held on the occasion that they were subscribed for by over a thousand persons of all classes resident in the district.

Scarlet Fever at Penrith.

Owing to the prevalence of scarlet fever at Penrith the medical officer of health, Dr. Robertson, has ordered all public elementary schools, as well as Sunday schools, to be closed for three weeks. All the beds in the Fever Hospital are now occupied.

A Munificent Bequest.

The will of the late Mr. John Henry Fox of Norton, near Stockton, has been proved, by which the sum of £20,000, free of legacy duty, has been left for the purpose of erecting and supporting almshouses in Norton parish. The will prohibits land being purchased, but if no site shall be available in the parish of Norton the said sum of £20,000 is to be given to the hospital at Greatham, Durham.

Death of Dr. R. R. Manners of Blyth.

I regret to have to note the death of a promising young surgeon, Dr. R. R. Manners, at the early age of twenty-two; he had recently obtained his qualification and went to help his brother at Blyth, where he died, after a very short illness, from typhoid fever.

Dr. Blyth, formerly of Johnstone-bridge, Dumfriesshire, has been appointed Government Medical Officer in Fiji.—Diphtheria is reported as having again broken out in Annan.

Newcastle-on-Tyne, Oct. 25th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Rectorial Election at the Edinburgh University.

THE canvass for the Rectorial election is proceeding. The candidates are Lord Reay and Lord President Robertson, the Lord President of the Court of Session. The former is the candidate of the Liberal party, and the latter of the Conservatives

The Suspected Case of Cholera at Leith.

This case has been declared not to be one of true cholera.

The Royal College of Surgeons, Edinburgh.

The Royal College of Surgeons has elected Dr. P. H. Maclaren to be their President. He is one of the surgeons to the Royal Infirmary.

Edinburgh Medical Societies.

The Pathological Club will hold its first meeting for the ensuing session this week, and the Medico-Chirurgical Society next week. Dr. Clouston has been nominated for the presidency of the latter in succession to Dr. Joseph Bell.

The Triple Qualification.

There are, it is believed, over 200 candidates up for the Final Examination for the triple qualification which is at present being held. This is an unprecedently large number.

Aberdeen University: Opening of the Winter Session.—Professor Hamilton on Recent Discoveries in Pathology.

Professor Hamilton opened the winter session on Tuesday of last week by a lecture on Recent Discoveries in Pathology. He impressed his hearers with the immensity of the field opened up in recent years in the parasitic nature of contagious disease. He then spoke at some length on the functions of ductless glands, which were so long a puzzle. He referred to the old idea that structures like the thyroid gland, thymus gland, pituitary body, and supra-renal capsules were merely embryological residua. Then, taking the thyroid gland as an example, he spoke of the results of recent teaching as to the nature of the "colloid" secreted by the gland the effects of removing the gland, the relationship between cachexia strumipriva and myxœdema, and the treatment of the latter, firstly, by transplantation of a healthy gland and, secondly, by the injection of the extract of healthy glands. Dr. Hamilton then fully criticised the recent pathology of the pancreas, speaking of the relation of its excision or destruction to diabetes and the successful result of transplantation of healthy pancreases in cases of diabetes. He devoted the latter part of the lecture to a brief review of recent experiments on immunity from disease. He spoke of the varieties and causes of immunity and their relations to germ poisons or toxines and to antitoxines. He indicated the future of serum-therapeutics and mentioned the work of Behring and Kitasato. In this connexion he gave a masterly review of the recent work in regard to tetanus, speaking of the experimental tetanus obtained from Kitasato's bacillus, the tetanic toxines, tetanine, tetano-toxine, and spasmo-toxine, the immunity to tetanus obtained by injecting antitoxic serum, and the treatment of tetanus by antitoxine. Dr. Hamilton concluded by drawing attention to the fact that, even in medicine, history repeats itself. The pathology of our forefathers was for long called "humoral pathology." It was supposed to have received its death-blow by the introduction of "cellular pathology." Recent discoveries would seem to point to a revival, however, of the humoral pathology of the past.

Oct. 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Royal College of Surgeon in Ireland.

THE prizes for the winter session 1892-93, and the summer session 1893, in the School of Surgery will be presented to the successful students by the President of the College on Wednesday, Nov. 1st, at 12 o'clock.

Catholic University School of Medicine.

The winter session will be formally opened by the Chancellor of the University, the Most Rev. Dr. Walsh, Archbishop of Dublin, on Tuesday, the 31st inst. The inaugural address will be delivered by Dr. C. J. Nixon, Dean of the Medical Faculty. There will also be a distribution of school exhibitions and prizes for the year 1893.

Conversazione at the Royal University of Ireland.

The arrangements of the committee are nearly completed. His Excellency the Lord Lieutenant has graciously accepted an invitation to be present; many other distinguished guests have likewise signified their intention to attend. The experiments and exhibitions will be of exceptional interest; some of them, we believe, have never been shown in Dublin before. Of these we may specially mention a telephonic communication with Belfast, by means of which fifty persons will be able to listen to a concert which is being organised in the northern capital. This has been done with the help of the Dublin Telephone Company, and it will be under the care of Professor Barrett. Another feature which I am sure will be found extremely interesting will be the lime-light exhibition of a series of photographs by Mr. Leonard Strangways, several of which have been specially taken for the occasion. Some of the scientific exhibits by the Right Rev. Monsignor Molly and Professor Preston will be shown for the first time in this city. Of these the most novel will be M. Tesla's electrical experiments. Other exhibitions in physical and biological science will be made by Professors Blaney, Cole, Sigerson, and Stewart, and will be, I feel certain, as popular as on former occasions.

Oct. 25th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Anti-toxic Function of the Liver.

READERS acquainted with the views propounded by Professor Bouchard will be conversant with his ideas concerning the poison-destroying properties of the liver. He and his followers attach great importance to the power of the liver-cells to nullify the effects of the toxines manufactured in the intestines. The correctness of this has been corroborated by the experiments of Schiff, Heger, Roger, and others, who found that alkaloids injected into the branches of the portal vein were much less toxic than when they were introduced into the general venous circulation. M. Pavlow has confirmed these results by a series of experiments, of which I give a *résumé*. If, by means of a ligature placed on the portal vein, the blood is compelled to deviate from the liver and pass directly into the general circulation, poisonous symptoms appear, consisting of fever and nephritis, with albuminuria. That this nephritis is not due to hypertension of the blood in the renal vessels is proved by the fact that no such kidney trouble is caused by ligature of the inferior vena cava, although this manœuvre is productive of a greater tension in the renal vessels than the operation in question. A wound artificially produced in an animal whose portal vein has been tied heals very slowly, whereas a similar wound in an animal where the inferior vena cava has been ligatured cicatrises without difficulty. The conclusion is that when the blood is prevented from passing through the liver toxæmia occurs, which is solely due to the fact that the liver no longer plays a protective *rôle* against toxines, which are being continually fabricated in the intestinal canal.

The Therapeutic Value of thorough Antiseptic Irrigation of the Intestinal Canal.

This plan of treatment has already been tried by Dr. de Genersich, a Hungarian physician, and the method pursued by him and some of his results were published in THE LANCET of Oct. 14th. His researches have been recently continued by M. Dauriac. Like his *confrère*, M. Dauriac renounced, as futile, attempts to disinfect the alimentary canal through the œsophagus, enemata having to be utilised. His experiments were first made on the dead body, and then on living dogs, among them being one affected with chronic diarrhœa, which he cured by his method. His plan is to introduce a flexible œsophageal tube into the rectum as high up as possible, and then to open communication with a receptacle placed at a maximum height above the bed level of 80 centimètres. In eleven idiot children affected with fetid diarrhœa the flux yielded to the first enema of a 1 per cent solution of lactic acid, and the same success attended the application of this mode of treatment in five cases of green diarrhœa in

the new-born. In one case of typhoid fever enemata of diluted creoline, administered with due precautions, had the immediate effect of reducing the frequency of the motions, which gained in consistency and lost their fetidity. What was still more remarkable was the change in the appearance of the tongue, which in one day became moist and clean (it was previously dry and baked). The improvement in the general condition was no less marked, the headache disappearing, and the patient (on the twelfth day of the fever) expressed a desire for food. From the commencement of the enema treatment the temperature fell and from that time oscillated between 37·6° and 39° C. The disease ran a short course, and convalescence was early, the patient beginning to eat on the twenty-ninth day. In this case a maximum of five litres of a tepid antiseptic solution (probably of boric acid) was injected from the twelfth day onwards. M. Dauriac asserts that five litres of liquid suffice to fill the large intestine, to pass beyond the ileo-cæcal valve, and to irrigate a considerable portion of the small intestine. In two adults suffering from catarrhal jaundice enemata of cold water and cold Vichy water promptly (on the morrow) converted the clayey stools into normal-coloured ones, and recovery very speedily followed. In another case of diarrhœa and emaciation of unknown origin complete irrigation of the intestines brought away an entire tænia, and all the symptoms disappeared. M. Dauriac believes that the method might be usefully applied in other diseases and conditions. For example, the alimentary canal might be disinfected on the eve of a major operation with great advantage to the patient. When giving the enema to adults extreme gentleness must be observed; severe colicky pains are sometimes experienced during the operation, and a pause should be made to allow these to subside. When the liquid reaches the stomach vomiting is induced. This is not desirable, and, directly percussion reveals the fact that that viscus is beginning to fill, the irrigation should be interrupted and the rectal tube removed, when the intestinal contents will escape. In certain cases chloroform might be administered in order to render the operation possible.

Death of Professor Lefort.

In the demise of Léon Lefort, Professor of Clinical Surgery at the Paris Faculty, the surgical branch of the profession loses a worthy representative and England and her institutions a staunch admirer. A short while ago I met him in consultation, and the news of his sudden death on the afternoon of Friday last, at his château of Briou (whither he had repaired on the preceding Tuesday), came as a shock to me and to all who could recall his robust appearance and deep bass tones. The deceased was only sixty-one years of age, having been born at Lille in 1832. His professional life began at the hospital of his native town, where he remained until 1850. Coming to Paris, he was appointed an *interne* in 1853, *aide d'anatomie* in 1856, and *prosecteur* (demonstrator of anatomy) in 1858. He took part in 1859 in the Italian campaign in the capacity of *sous-aide-major*. Graduating in 1860, he undertook a tour in England, Ireland, Scotland, Holland, and Switzerland, with a view of studying hospital hygiene and management in those countries. On his return he issued a *mémoire* in which he urged the necessity of reform in such matters in Paris. In 1863 he was promoted to the dignity of *professeur-agrégé*. In the following year he was commissioned by the Government to visit the principal hospitals and institutions of Germany and Russia. He was a voluminous writer, his special study having been that of hernia, hydrocele and varicocele, as well as clubfoot. Next week I hope to supply the readers of THE LANCET with a list of his writings and with a few more details of his life. I can here only allude to his goodness of heart, his kind manner, and his invariable courtesy, qualities which, combined with a consummate knowledge of surgery in all its modern developments, will render his place at the Faculty of Medicine and in the hospital and operating theatre difficult to fill. We English should especially mourn his loss, for he always felt and expressed a genuine admiration for the practical common sense and judgment which have enabled us to figure in the front rank as progressive surgeons.

Oct. 24th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Professor Virchow.

ON October 21st Professor Virchow celebrated the jubilee of his doctorate, or rather it was celebrated in his absence. The *Berliner Medicinische Wochenschrift* published in his honour a special "Virchow number," in which several of his most distinguished colleagues coöperated to give some idea of what Germany and the world owe to the great professor. To give a sketch even of the work which he has contrived to crowd into those fifty years and is fortunately still actively carrying on would tax a writer of exceptional attainments. There are but few men of his extraordinary scientific knowledge who have thrown themselves with his ardour and his success into public work. What science owes to him is known and recognised all the world over. He has been, in science especially, cosmopolitan, and scientific work in every country has received from him ungrudging recognition. On his return from England in the spring of this year, in reply to the welcome which the Medical Society of Berlin gave him, he said that he took the attentions and honours shown to him in England as not so much meant for him personally as for the representative of German work and German science, and that so his journey was really a kind of international mission which he had gladly undertaken. Not so widely known outside Germany, but all the more gratefully recognised there, is Professor Virchow's work as a public man. It is in a great measure due to his initiative and to his untiring energy as a member of the city council that Berlin owes its position as one of the best, possibly *the* best, managed city in the world from a sanitary point of view. The great public hospital in Moabit was the result of his energy and influence. To him Berlin owes the Kaiser and Kaiserin Friedrich Children's Hospital, which is a model of what such an institution should be. The construction of the great system by which Berlin is drained and sewered and the treatment of the sewage by irrigation, which is undoubtedly the system best suited to the circumstances, were in a great measure due to him, for it was his report which finally subdued all opposition and convinced the city council and the public of the correctness of the proposals which he supported. As Professor Hueppe justly writes, "the work which Virchow has done in hygiene alone would be the worthy life-effort of one man and will secure for him the permanent thanks of his fellow-citizens and contemporaries." In work for the provision and good management of public schools, public markets, and homes for convalescents, and in promoting the preservation and laying-out of open spaces and public gardens, Professor Virchow has been preëminently successful. His portrait is prominently placed in the town-hall, and the citizens of Berlin know well, and recognise heartily, what they owe to their great and faithful fellow-burgess, who, in spite of years and many-sided work, has never failed to respond when called upon for help and advice. That he may be yet long spared to continue the good work is the sincere hope not only of Germany but of men of science and of practical philanthropy all the world over.

University Statistics.

In the Academical year 1892-93 there matriculated at the University of Berlin 369 students of theology, 1182 of law, 832 of medicine, and 959 of philosophy. There were 8 deaths amongst students. The degree of M.D. was granted to 182 candidates.

The Accident to Professor von Helmholtz.

Professor von Helmholtz appears to be recovering from the lamentable accident which happened to him on his return voyage from America. According to the reports he was seized with an attack of vertigo and fell headforemost down the saloon stairs, receiving a formidable wound on the forehead, from which there was considerable hæmorrhage.

Professor B. Fraenkel.

Professor B. Fraenkel received quite an ovation at the meeting of the Berlin Medical Society on Oct. 18th on the occasion of the twenty-fifth anniversary of his appointment as official secretary to the Society.

Oct. 24th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Cholera in Austria-Hungary.

ACCORDING to official reports not less than 1113 cases of cholera have occurred in Galicia from Aug. 3rd till Oct. 17th, with a mortality of 58·6 per cent. During the last few days the daily number of cases there varied between 14 and 18, the

district of Stanislau now being the centre of the epidemic; but it is interesting to note that the epidemic, which is raging over a district containing more than 1,000,000 inhabitants and where the sanitary conditions are extremely rudimentary, does not attain a higher mortality, so that it must be believed that the disease has assumed quite a different character in comparison with previous epidemics. In Hungary, the disease is said now to be spread over the whole country, and more than 50 cases have also occurred in Bosnia, but the disease there is more widespread than severe. There have been few local epidemics, while the majority of the cases have had a sporadic character. At Budapest, however, a real epidemic came under observation. At one of the military barracks last week, where a regiment of Hussars had returned from Galicia, 55 men were down with cholera.

A Pasteur Institute in Vienna.

The Government has now manifested its intention of founding an institute for antirabic inoculations in Vienna. It will be in connexion with one of our large hospitals (the Rudolfsspital) and will be under the charge of the pathologist of that institute. Persons bitten by rabid animals have now to be sent to Bucharest, Budapest, or Paris for antirabic treatment.

The Meetings of the Imperial-Royal Society of Physicians in Vienna.

The Society of Physicians in Vienna will hold its first meeting on Friday in the new building, which is situated near the General Hospital. This building, which has just been finished, contains an ample lecture-room, with galleries, and a large library with reading-rooms. The meeting will be opened by an introductory address, delivered by Prof. Puschmann, "On Medical Societies in the Past and in the Present."

Oct. 23rd.

RUSSIA.

(FROM OUR OWN CORRESPONDENT.)

Cholera in St. Petersburg.

THE returns of cholera in St. Petersburg for the past week indicate a slight improvement upon those of the previous week. In the week ending Oct. 7th (Old Style) 157 cases and 72 deaths were recorded, while in the week ending Sept. 30th the numbers were 195 cases and 99 deaths. The following are the daily returns:—

						Cases.	Deaths.
From noon on Sept.	30th	to noon on Oct.	1st	.. ..	..	24	9
,, Oct.	1st	,, ,,	2nd	.. ..	..	18	12
,, ,,	2nd	,, ,,	3rd	.. ..	..	25	13
,, ,,	3rd	,, ,,	4th	.. ..	..	20	11
,, ,,	4th	,, ,,	5th	.. ..	..	23	8
,, ,,	5th	,, ,,	6th	.. ..	..	23	11
,, ,,	6th	,, ,,	7th	.. ..	..	19	8

The Cholera Epidemic in the Provinces.

The increasing length of the cholera bulletins, issued twice a week, has been sufficient evidence during the past few months of the wide extent over which the infection is spread throughout Russia. With five exceptions every one of the governments of European Russia where cholera occurred last year has appeared in the lists during the present year, and one government (Kalisz, in Polish Russia) which escaped last year has been less fortunate this. Of the sixty European governments, fifty-one have suffered more or less severely. The principality of Finland has not furnished one case of cholera in either year. In the Caucasus the epidemic has been extraordinarily mild in comparison with that of last year. Four of the Caucasian provinces have escaped altogether, and it is a remarkable fact that one of these is Daghestan, which last year suffered more severely than any other part of the empire. Even in the Terek and Kuban provinces, where last year the cases were numbered by thousands daily, they have in the present summer not once amounted to a hundred weekly. By the last returns the epidemic is diminishing in many of the Russian governments, notably in Podolia (563 cases and 234 deaths in the fortnight ending Sept. 25th) and Kiev (287 cases and 91 deaths in the same period). On the other hand, increased numbers of both cases and deaths are recorded in Samara (308 cases and 142 deaths in the week ending Sept. 25th), Saratof (114 cases and 66 deaths), Ekaterinoslav (333 cases and 148 deaths), and some other governments.

Leprosy near St. Petersburg.

A society for the eradication of leprosy in the government of St. Petersburg has just been formed in the capital, at the initiative of Count Tol, the Governor of St. Petersburg. A considerable number of cases of leprosy were brought to light last summer in this part of Russia, and the newly formed society proposes to take active steps for the supervision and isolation of such cases.

"Pixol: a Cheap Disinfectant."

Permit me to add to my note under this heading in THE LANCET of Oct. 14th that extensive trials of this preparation have been made in the cholera wards of the Obuchovski Hospital in St. Petersburg, but with very unsatisfactory results. The solution of tar is found to have no power to kill cholera bacilli, and only a slightly inhibitory power on their growth. I have seen flourishing cultivations of comma bacilli obtained from dejecta after even sixteen hours' exposure to the action of the tar solution, which had been added to the dejecta in the proportion of 2 volumes to 1. This must be held to dispose entirely of the claims of pixol as a disinfectant—at any rate, as regards cholera. Most of the large hospitals in this city are now independent of the use of chemical disinfectants for dejecta, as they possess the special apparatus already described in THE LANCET for boiling all infectious fluids before these pass into the drains.

St. Petersburg, Sept. 8th-20th.

Obituary.

HERBERT HARDING ASHDOWN, M.D. EDIN.

IT is with feelings of sincere regret that we chronicle the early death of Dr. Herbert H. Ashdown, which occurred at Coningsby, Lincolnshire, on the 10th inst. A week previously he appeared to be in robust health—few men seemed mo robust. Two or three days later he was seized with virulen diphtheria, to which, after four days' illness, he succumbed, adding yet another to the list of victims which the deadly malady claims, year by year, from the ranks of the medical profession.

Herbert Harding Ashdown was born in Northampton in 1859. He received his preliminary education at home, and later at the Edinburgh Collegiate School. In 1877 he commenced the study of medicine at Edinburgh University, where he speedily made his mark. No one was better known or better liked among the men of his time. His student course was a distinguished one, and he graduated with honours in 1882. Thereafter he received the appointment of Demonstrator of Anatomy under Sir William Turner. In 1883 he obtained, by examination, the position of Resident Physician in the Royal Infirmary of Edinburgh, in association with Professor Greenfield. The following winter was spent in Leipzig and Berlin, whence he returned to Edinburgh in the summer of 1884 to occupy the post of senior assistant in the Physiological Department of the university. This was an office after his heart, and he entered on its duties with much zest and earnestness. The fruits of his labours were soon apparent, both in the lecture-room and laboratory. More especially in relation to original research did he become a focus of interest, and his room in the laboratory came to be the meeting-place of many of the more active workers in the school. Unfortunately in 1887 circumstances occurred—through no fault of Dr. Ashdown—which left him no choice but to resign his appointment and sever his connexion with the department. In leaving he was entertained at a complimentary dinner and presented with an address by the great body of his fellow teachers. The gathering afforded the best testimony that could be offered to the signal success which he had achieved and to the high esteem in which he was held. With a keen determination not to drop the threads of several researches which he had on hand, he sacrificed more than one tempting offer and proceeded to London, where he continued his work in University College. He was nominated to the Fence and Houldsworth Scholarship and prosecuted his physiological investigations with assiduity. Of his published works the most important are: (1) his memoir "On Certain Substances found in the Urine which reduce the Oxide of Copper upon Boiling in the presence of

an Alkali,"[1] and (2) his research on Absorption from the Urinary Bladder.[2] In the former he demonstrated the occurrence in the urine obtained from apparently healthy subjects of glycuronic acid and suggested the probability of this having been confused with true glycosuria. He also drew attention to the appearance of glycuronic acid in the urine after the exhibition of chloroform, morphia, and other agents. By the latter research he largely set at rest the vexed question as to the occurrence of absorption through the vesical mucous membrane. On being promoted to the Doctorate of Medicine he was accorded a gold medal by the Medical Faculty of Edinburgh University. He was a Fellow of the Royal Society of Edinburgh and a Member of the Physiological Society. In 1889, on the advice of professional friends, he settled in practice at Coningsby. He threw himself into the duties of the new sphere with characteristic energy. His professional standing, high character, and attractive personal qualities quickly gained for him an exceptional degree of trust and regard. Only a month or two ago he arranged to share with a partner a portion of his rapidly increasing practice. In August last he took a short holiday in Scotland and returned to work in excellent health. In the midst of this he was suddenly attacked by illness and never rallied. He was buried at Coningsby on the 13th inst.

We reprint a striking tribute to his memory which appeared in the *Edinburgh University Magazine* of the 19th inst.: "It is not too much to say that Dr. Ashdown was one of the most unique men that the university has turned out for many years. Gifted with unusual bodily vigour, he possessed mental capabilities of no less vigorous character. He combined in uncommon fashion the qualities of teacher and investigator. Perhaps the chief characteristic of his work was its thoroughness. He could not brook anything like slipshod, slovenly methods, and he was fortunate in being able to impress those with whom he came in contact with the same enthusiasm for honesty in work. His published researches were models of precision and unwearying care in observation, and their value has been widely recognised in this country and abroad. He had an immense amount of such work on hand, and one of his saddest reflections in quitting Edinburgh was the prospective necessity of leaving much of it incomplete. His attainments were most varied and were not limited to medical science. He was well versed in general literature and was more particularly a discriminating student of poetry; a connoisseur in music, he was long a warm adherent of the University Musical Society. He was a keen sportsman, and, next to the calls of the profession, he loved to 'hearken to the ring of a clear "Tally-ho!"' His geniality of disposition, his sympathetic nature, his devotion to duty, and his thorough-going loyalty of spirit—'the homage of a knightly heart'—attached to him in close friendship a large number of the best men among his contemporaries:—

> 'For never man had friend
> More enduring to the end,
> Truer mate in every turn of time and tide.'"

DEPUTY-SURGEON-GENERAL WILLIAM WALKER, M.A., M.D., LL.D. ABERD.

ON the 10th inst. died, at Alleyn Park, London, to the deep regret of the members of his family and of his numerous friends, Deputy-Surgeon-General William Walker. He was a distinguished graduate of the University of Aberdeen, in which he was the recipient of high academic honours, prior to his obtaining the first place in the competition for admission to the Indian Medical Service in 1855. He saw some field service in the Mutiny campaign, but his chief employment was in the civil department. The mere enumeration of the posts he was selected to occupy, and to the discharge of the duties of which he brought the indispensable qualities of sagacity, fidelity, and thorough professional knowledge, is sufficient to show the confidence reposed in him as an administrator by the supreme authorities. In 1871 Dr. Walker was chosen to conduct the administration of the gaol department of the North-West Provinces and to control the civil medical department of the provinces as inspector-general of civil hospitals and dispensaries. Sixteen years later he was placed in administrative charge of the gaol and medical departments of the province of Oudh in addition to those of the North-West Provinces. For the distinguished ability with which he discharged the onerous duties connected with these offices he received the special thanks of the Government of India and was appointed a Deputy-Surgeon-General in the military establishment of that dependency. During the last year of his duty in that capacity he was called upon to officiate for three months as Surgeon-General and Sanitary Commissioner with the Government—an appointment which, at first of a temporary character, was five years later rendered permanent. In the course of his official career he obtained from time to time gratifying evidence of the esteem with which his services were regarded by the authorities. In 1888 Dr. Walker received a good-service pension from the Indian Government. Two years later, having retired from military service, he was appointed Honorary Physician to the Queen. In recognition of the value of his work from both a public and a professional point of view, he received from his *alma mater* the honorary degree of LL.D. The immediate cause of his death does not seem to have been distinctly ascertained, but it appears to have been due to failure of the heart's action subsequent to the removal by operation of a post-nasal growth.

[1] Proceedings of the Royal Society, Edinburgh, vol. xvii.
[2] Journal of Anatomy and Physiology, 1887.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE ordinary Comitia of the College was held on Thursday, the 26th inst. The chair was occupied by the Senior Censor, Dr. J. E. Pollock, who on taking it referred in feeling and suitable terms to the serious illness which had overtaken Sir Andrew Clark, the distinguished President of the College. Dr. Dickinson acted as vicarius for Dr. Pollock in the office of Senior Censor. On the motion of Sir Richard Quain, seconded by Sir Henry Pitman, the College unanimously passed a resolution marking the profound sorrow with which it had heard of the President's illness, offering sympathy to him and to his family, and expressing the hope that his malady might be stayed, his health restored, and his useful life prolonged.

Drs. J. H. Drysdale, R. T. Hewlett, and A. Whitfield were admitted Members of the College.

Licences were granted to those who had passed the recent examination.

The question of the most appropriate time for holding the Harveian Dinner was raised, and deferred for consideration.

A communication was received from the Home Secretary stating that the Loyal Address of the College to the Queen on the occasion of the marriage of the Duke and Duchess of York had been laid before Her Majesty, who had been pleased to receive it very graciously.

Similar communications, expressing thanks for congratulatory addresses, were read from the Comptroller of the Household of H.R.H. the Prince of Wales and of H.R.H. the Duke of York.

A lengthy communication from the General Medical Council respecting the causes of the apparently increasing stringency of the final examinations was received. On the motion of Sir Henry Pitman, seconded by Sir Dyce Duckworth, this was referred to the committee of management.

Communications were read from the late Senior Censor, from the Secretary of the Royal College of Surgeons, and from a Member, who desired to resign the Membership of the College as he had embarked in general practice and required to dispense his own medicines.

The accounts of the College for the past year were presented by the Treasurer, together with the quarterly report of the Finance Committee.

A report from the Council recommending that in future any candidate desirous of submitting to the examinations conducted by the College at the instance of the Colonial Office in respect to the island of Trinidad should be examined in London was adopted.

Dr. Russell was elected an Examiner in Chemistry in place of the late Mr. Heaton. Dr. Edward Liveing was re-elected a member of the Committee of Management, and Dr. Halliburton was elected to the Laboratories Committee in place of Sir William Roberts.

On the motion of Dr. Theodore Williams, seconded by Dr. Payne, it was resolved that one of the four elected members of the Library Committee should retire annually by

rotation, the retiring member not being eligible for re-election until he had been out of office for one year.

Reports from the Committee of Management, dated July 17th and Oct. 19th, which had already been accepted by the Royal College of Surgeons, were received and adopted.

A report from the Laboratories Committee was received, and also the Quarterly Report of the Examiners, from which latter it appears that at the second examination there had been 249 candidates in Anatomy and 268 in Physiology, with a percentage rejection of 40 in each subject; that in Medicine the number of candidates had been 272, with 43 per cent. of rejections; in Surgery 251, with 39 per cent.; and in Midwifery 269, with 36 per cent.

Among the list of books presented to the Library the Registrar especially directed attention to the gift by Sir William Jenner of his collected writings on "Fevers and Diphtheria," and the gift by Dr. Briggs of Southport of a copy of the first edition of Dr. Edward Jenner's work on "Cow-pox."

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the First Examination of the Board in the subjects indicated, under the "five years" regulations at the quarterly meeting of the Examiners:—

Part I.—Chemistry and Physics:

Barham, Percy Cornelius, St. Bartholomew's Hospital.
Barker, Horace, J. M. D. Sale, Guy's Hospital.
Bennett, William Fay, St. Bartholomew's Hospital.
Bradley, John, Wolverhampton Free Library.
Bridger, James F. Edmund, St. Mary's Hospital.
Clark, Reginald William, London Hospital.
Cousins, John Samuel, Guy's Hospital.
Crew, Edward John, Guy's Hospital.
Deakin, Frank Newstead, Masons College, Birmingham.
Douglass, Percy Clarence, St. Mary's Hospital.
Edwards, John Maltby, Charing-cross Hospital.
Evans, Edward Alban, Technical Institute, Swansea.
Fell, Robert, Guy's Hospital.
Francis, Arthur Edward, University College, London.
Francis, J. Bernard Chalmers, Westminster Hospital.
French, William Day, University College, London.
Fuller, William Anderson, Guy's Hospital.
Glanville, Thomas Latimer, Charing-cross Hospital.
Good, Arnold Saxty, St. George's Hospital.
Grellet, William Pennington, Guy's Hospital.
Hall, John Blake, Yorkshire College, Leeds.
Harrison, Gerald Woodforde, St. Thomas's Hospital.
Henshaw, Harry William, St. Bartholomew's Hospital.
Hogan, Cyril Evelyn, St. Bartholomew's Hospital.
Johnston, William, Charing-cross Hospital.
Leverton, Arthur George, St. Bartholomew's Hospital.
Lloyd, Hugh E. Drummond, St. George's Hospital.
Lobb, Francis Frederick, St. Mary's Hospital.
McComb, James Adrian, London Hospital.
Martin, Francis John Heasley, Guy's Hospital.
Milburn, Leslie, Middlesex Hospital.
Mondy, Samuel Lee Craigie, University College, London.
Parsons, Gerard Lyne, Westminster Hospital.
Prichard, Arthur Heawood, University College, London.
Radley, Remus William John, Guy's Hospital.
Rains, Walter, Owens College, Manchester.
Rogerson, Oswald Herbert, Yorkshire College, Leeds.
Scott, John Geddes, Westminster Hospital.
Seacombe, Arthur Frederic, University College, Liverpool.
shed, Harry Francis, St. Thomas's Hospital.
Simson, Harold, Guy's Hospital.
Southan, Percy, Masons College, Birmingham.
Spear, George A. Whitworth, St. Bartholomew's Hospital.
Swindale, John Aston, Masons College, Birmingham.
Watts, Robert, Firth College, Sheffield.
Whitaker, Leonard Edgar, St. Bartholomew's Hospital.
Willcox, Robert, University College, Bristol.
Worsley, Richard Le Geyt, S. George's Hospital.

Part II.—Practical Pharmacy:—

Benham, Charles Henry, University College, London.
Butler, Frederick Thomas, Owens College, Manchester.
Cato, Charles Stanley, Westminster Hospital.
Dobson, James Alexander, Masons College, Birmingham.
Dowding, Ernest Frederick Charles, St. Thomas's Hospital.
Edwards, John Maltby, Charing-cross Hospital.
Evans, Edward Alban, Technical Institute, Swansea.
Foster, Percy, Charing-cross Hospital.
Glanville, Thomas Latimer, Charing-cross Hospital.
Glaze, Thomas Horace, Masons College, Birmingham.
Hearn, Ethelbert, Firth College, Sheffield.
Hodgson, John Edward, Owens College, Manchester.
Hull, Alfred John, Guy's Hospital.
Kilvert, John Ellis, St. Thomas's Hospital.
Lankester, Cecil Pryor, St. Thomas's Hospital.
McIntyre, Daniel, Owens College, Manchester.
Malcolm, Alexander John, St. Mary's Hospital.
Mayon, Marmaduke Stephen, King's College, London.
Milburn, Leslie, Middlesex Hospital.
O'Neill, Gordon, Charing-cross Hospital.
Overton, Reginald Frederick Noyes, St. Mary's Hospital.
Parsons, Allan Chilcott, St. Thomas's Hospital.
Pitman, George John Edward, University College, London.
Rains, Walter, Owens College, Manchester.
Scott, John Geddes, Westminster Hospital.
Shedden, Arnold Ward, Masons College, Birmingham.
Smith, Hugh, private study (at Dudley).
Southan, Percy, Masons College, Birmingham.
Swindale, John Aston, Masons College, Birmingham.
Turner, Charles Ernest, University College, London.
Tuxfort, Arthur Wren, St. Mary's Hospital.
Watson, Arthur John, St. Mary's Hospital.
Watts, Robert, Firth College, Sheffield.
Way, Montague Harold, Guy's Hospital.

Part III.—Elementary Biology:—

Bedford, Godfrey Henry, Guy's Hospital.
Collum, Rowland William, Charing-cross Hospital.
Deakin, Frank Newstead, Masons College, Birmingham.
Hancock, William Edwin Harrie, University College, Bristol.
Harness, Henri Nelson, King's College, London.
Parsons, Gerard Lyne, Westminster Hospital.
Watson, John William, University College, Bristol.
Welch, Charles Herbert, University College, Bristol.

Part IV.—Elementary Anatomy:—

Alcock, William, Firth College, Sheffield.
Aspinall, Hermann, University College, Liverpool.
Blythe, Thomas Thompson, St. Thomas's Hospital.
Charlton, John Fitzgerald, Charing-cross Hospital.
Edinger, Frederick Kincaid, University College, London.
Harris, Henry Arthur Clifton, St. Thomas's Hospital.
Rogerson, Oswald Herbert, Yorkshire College, Leeds.
Skevington, Joseph Oliver, St. Mary's Hospital.
Wilson, Herbert Thomas Craig, King's College, London.
Wood, Percival, St. Bartholomew's Hospital.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates have passed in the subjects indicated below:—

Surgery.—C. P. Allen, Middlesex Hospital; H. A. Beetham, Leeds; J. H. Campbell, St. Mary's Hospital; A. D. P. Dudley, University College; S. C. C. Fenwick, St. Mary's Hospital; A. H. Hardcastle, Leeds; F. Horseman, Leeds; H. K. Hunter, Birmingham; T. J. McDonald, Toronto; J. Prior, St. Thomas's Hospital; H. C. Renshaw, Manchester; P. Slack, Sheffield; F. C. Sutherland, St. Bartholomew's Hospital; F. H. R. J. U. Walker, St. George's Hospital; H. Whichello, St. Thomas's Hospital; and F. H. White, London Hospital.

Medicine, Forensic Medicine, and Midwifery.—W. P. Hilliam, Sheffield; F. Horseman, Leeds; H. K. Hunter, Birmingham; J. H. Jones, Edinburgh; J. K. Kempthorne, King's College; E. Quayle, Manchester; F. H. White, London Hospital; and E. M. Wilkes, Edinburgh.

Medicine and Forensic Medicine.—C. G. Matthews, St. Bartholomew's Hospital.

Medicine and Midwifery.—A. E. Pryse, University College.

Medicine.—D. D. Brown, St. Bartholomew's Hospital; F. H. Halse-Francis, Guy's Hospital; and J. A. Procter, King's College.

Forensic Medicine and Midwifery.—P. L. G. Skipworth, St. Bartholomew's Hospital; and A. B. Sturges, Leeds.

Forensic Medicine.—C. F. Gross, King's College.

Midwifery.—J. K. Birdseye, St. Bartholomew's Hospital; and J. M. Ritchie, Birmingham.

To Messrs. Beetham, Campbell, Fenwick, Gross, Hardcastle, Hilliam, Horseman, Hunter, Kempthorne, Procter, Quayle, Slack, Sturges, Whichello, White, and Wilkes were granted the diploma of the Society entitling them to practise Medicine, Surgery, and Midwifery, thus enabling the holder to compete for medical appointments in the Army, Navy, and India Service, also for Poor-law appointments.

UNIVERSITY OF GLASGOW.—The following have passed the first professional examination for the degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.):—

Old Regulations.—William Buchan Armstrong, Thomas Baxter, Hugh Borland, Thomas Alphonsus Brennan, William Brown, Charles Cairnie, M.A.; Thomas Cochrane, James Banks Cumming, Thomas M'Gibbin Fletcher, James Graham, James Donald Holmes, James Kirkland, George Louis Le Fevre, David George Lindsay, Robert Adair Lockhart, John Marshall, Robert Hugh Meikle, Wm. M'Gilchrist Montgomery, John Walker Munro, Andrew Brown Murray, George Murray, Archibald M'Glashan, Joseph M'Gowan, Archibald M'Intyre, Hugh M'Intyre, Robert Rillie, Alexander Page Robertson, Robert Shanks, Joseph Sillars, David Wallace Smith, David Lyon Stevenson, M.A.; James Stirling, Andrew Taylor, and Andrew Colville Wilson.—Women Candidates: Annie Kirbby Anderson, Christina Fraser, Mildred Ranzome, and Merbai Ardesir Vakil.

The following have passed the first professional examination for the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.) in the subject or subjects indicated after their respective names (B., Botany; Z., Zoology; P., Physics; C., Chemistry):—

New Regulations.—John Aitken (B., P.), George Alexander (Z., P.), Alexander Smith Allan (Z., C.), James Alston (B., Z., P., C.), Arthur James Ballantyne (B., P.), James Symond Beveridge (B., Z.), John George Wilson Boleyn (B., Z., P.), Theodore Belchambers Broadway (B., Z., P., C.), John James Buchan (B., Z.), William Cochran Burns (B., Z., P., C.), David Louis Cairns (B., P.), Ranald Douglas Campbell (B., Z.), Robert Carswell, M.A. (B., C.), Alex-

ander Henderson Cassells (B., P.), Francis James Charteris (B., P.), George Clark (B., C.), Joseph Adam Clarke (B., Z., P., C.), George Coats (B., Z., P., C.), George William Coats (P., C.), James Duncan Cochran (B., P.), George Jones Cole (Z., C.), Joseph Muir Corbett (B., Z., P. C.), William Crerar (B., P.), John Crow (Z., P.), Robert Douglas, M.A. (B., P.), Binnie Dunlop (B., Z.), Walter Scobie Findlay, M.A. (B., C.), James Finlayson Fleming (P., C.), Adrian Andrew Forrester (B., Z., P., C.), Thomas Bonnar Garvie (B., Z., P., C.), Lawrence Whitaker Harrison (B., Z., P., C.), Harold Smith Heap (B., P.), Thomas Hunter, M.A. (B., Z., P., C.), George Irving, M.A. (P.), Ernest Frederick Lionel de Jersey (Z., C.), Archibald Jubb (B., P.), Alexander Lawrie (P., C.) Alexander Millar Lindsay (B., P.), William Mitchell Lindsay (B., Z., P., C.), John Watson Little (B., Z.), Andrew Love (B., P.), Robert Lunan (Z.), James Alexander Mitchell (B., P.), John Macdonald (B., Z., P., C.), James M'Haffie (B., Z., P., C.), William Findlay M'Indoe (Z., C.), David M'Kail (B., Z., P., C.), Anderson Gray M'Kendrick (B., Z.), Laurence Abel Mackenzie (B., C.), Alfred Duncan Macnair (B., P.), Roderick Reid Macnicol (B., Z.), James M'Queen, M.A. (B., C.), James M'Whir (B., C.), William Gardner Neill (B., P.), Alexander Duncan Nicolson (B., Z., P., C.), Robert Niven (P.), James Service Ormond (B., Z., P., C.), John Reid (B., C.), Daniel Scanlan (C., P.), James Scott (B., P.), Joseph Wilkie Scott (B., P.), Norman Emil Henry Scott (B., Z., P., C.), Robert Scott (B., Z., P., C.), David Ap Simon (B., Z.), John Laird Simpson (Z., C.), Alexander Bankier Sloan (B., Z., P., C.), John Macfarlane Sloan (B. P.), David Steele Smith (Z., C.), John M'Callum Stewart (B., Z., P.), James Strang (B., P., C.), Donald Sage Sutherland (B., Z., P., C.), Douglas Swan (B., Z.), Daniel Rees Thomas (B., Z., P., C.), Walter Lewis Thomson (B., Z., P., C.), Henry Nisbet Turner (B., Z., P., C.), William James Alexander Walker (Z., C.), William Watson (Z., C.), Ernest Watt (Z., C.), James Patterson Wilson (B., P.), John Wotherspoon (B., Z., P., C.), William Wyper (P., C.), and David John Young (Z., C.).—Women Candidates: Daisy Annabelle Bennett (Z., P.), Daisy Annabella Murdoch Clark (B., Z., P.), Mary Gardner (B., Z.), Jane Lorimer (B., Z.), Minna Amelia Macfarlane (B., Z.), Margaret Elizabeth M'Neill (B., Z.), Jean Effie Prowse (B., Z.), Agnes Renton Robson (B., Z., P.), Catherine Love Smith (Z., C.), and Jessie Hawkesworth Smith (B., Z.).

The following have passed the second professional examination for the degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.):—

William Alexander, William Allan, William Allen, John Anderson, M.A., John Anderson, John Lindsay Anderson, Samuel Anderson, William Stephen Baird, Robert Brownlee Barr, Thomas Bell, Henry Broom, Robert Buchanan, M.A., B.Sc., Ernest Alexander Campbell, Malcolm Campbell, Samuel Caple, Peter Skinner Clark, William Clow, M.A., B.Sc., Frederick Burdett Cormick, Samuel Donaldson Cowan, M.A., Peter Latimer Leitch Craig, M.A., John Divine, John Hannay Douglas, Joshua Ferguson, M.A., James Forster, James Fowlds, Thomas Cleator Garrett, John Gillan, M.A., James Drummond Graham, John Alexander Graham, Joseph Green, William Martin Griffith, George Henry Beck Harvie, Robert Hastie, William Hay, B.D., Arthur Holt, Gavin Dalzell Hunter, Allen Iredale, Frederick James Jayne, David Connor Kirkhope, John Knight, William Lawson, Robert King Miller, John Miller Woodburn Morison, Adam Cubie Muir, James Andrew Dixon Mulholland, Donald Mourn, James M'Clure, James Campbell M'Clure, William Milroy M'Farlane, Edward Mackay, John Souttar M'Kendrick, Lewis MacLachlan, Murdo Norman Macleod, William Macleod, Alexander Anderson M'Nab, Robert M'Naught, George M'Pherson, Robert Nelson, Harry Couper Patrick, John Robert Gordon Phillips, Edward James Primrose, M.A.; Samuel Prior, John Broadfoot Rae, John Rankin, John Neil Robertson, Neil Robson, William Scobie, B.D.; James Smith, Thomas Orr Speirs, James Sproull, Alexander Stevenson, Alexander Stewart, Alexander Hamilton Stewart, James Edmund Fergusson Stewart, Michael Wilson Symington, Joseph Milton Thornley, Charles Kirk Toland, Anthony Vost, Ernest Alexander Walker, M.A.; Noel Charles Echlaz Ward, Henry Allan Watson, M.A.; Henry Whitehouse, James Eric Wilson, Frederick Wolverson, Albert Samuel Worton, William Henry de Hyde Wytt, Archibald Young, and John Young (Glasgow).—Women Candidates: Agnes Jane Anderson, Kate Isabel Clutterbuck, Edith Ellen Goodrich, Mary Baird Hannay, Elizabeth Dorothea Lyness, and Emmeline Marie Stuart.

The following have passed the third professional examination for the degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.):—

A.—Including Pathology.—Thomas Douglas Brown, John Brownlee, M.A.; Henry Carmichael, Alexander Cochran, William Stewart Cook, B.Sc.; John Cumming, Hugh Brown Currie, John Dunlop, David Erskine, Albert Alfred Finkelstein, Thomas John Forbes, Robert Wardrop Forrest, James Fairlie Gemmill, M.A.; Alexander Girvan, David Glen, John Guy, Thomas Henry Hay, Robert Howie, William Henry Lang, David Ligat, Charles Hendry Lumsden, James Mair, John Howie Martin, M.A.; Robert Morton, George Mowat, John Murray, Fergus M'Kenna, Donald Maclean, Alexander MacLennan, Cuthbert Nairn, Hugh Stirling Brown Nisbet, Henry Alexander Pattullo, Hugh Riddell, and Hugh Wright Thomson.—Women Candidates: Margaret Cochran Dewar and Marion Gilchrist.

B.—Not including Pathology.—Robert Aitkenhead, Thomas Angus, Evan Bidie, Alexander Blair, Thompson Campbell, Allan Aiken Clark, John Andrew Cook, William James Couper, Robert Kirkwood Currie, James Donaldson, William Donaldson, William Bickerton Edwards, Frank Elliott, Daniel Ferguson, James Findlay, James Forrester, Andrew Frank Wilson Gunn, Francis Robert Hill, John Affleck Hope, John Hunter, Arthur Lawton, James Duncan Love, William Duncan Miller, John Morrison, Mosea Neil MacLay, Farquhar Macrae, Daniel Richmond, and James Currie Robertson, M.A.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS IN IRELAND: CONJOINT SCHEME.

—The following have passed the third professional examinations:—

A. W. N. Bowen, A. St. L. Burke, T. I. Considine, M. A. Corcoran, J. G. Crozier, A. M. J. Halligan, J. T. Harold, G. J. Houghton, T. J. Jordan, W. S. Lee, J. G. Morgan, H. L. McAvoy, P. J. McHale, E. F. Power, R. E. Smith, and R. G. S. Whitla.

LIFEBOAT SATURDAY IN MANCHESTER.

—Three years ago the movement named as above was started in Manchester for the purpose of aiding the National Lifeboat Institution in its beneficent work. On the 21st inst. the annual demonstration took place in that city and was attended by a vast number of interested and enthusiastic spectators. It was quite a gala day. Processions with bands of music paraded the streets, and pictorial effect was given by the introduction into the pageant of lifeboats, manned by their crews. At every convenient spot collecting boxes were placed, and by this means a goodly sum was raised for the benefit of the institution.

PATHOLOGICAL SOCIETY OF READING.

— Mr. Hutchinson, Ex-President of the Royal College of Surgeons, delivered the annual address to the members of the Reading Society at the Royal Berkshire Hospital, on Wednesday, the 25th inst., on the Value of the Printing Press and the Library in relation to Medical Progress. Mr. Hutchinson directed attention to the large increase in periodical medical literature. He suggested that cuttings from the periodical literature should be preserved and classified for convenient reference and use, as he had found so doing to be of great value in practice. His address was of great interest, and a vote of thanks, which was proposed by Mr. Maurice of Reading, President of the Society, and seconded by Mr. Barford of Wokingham, a Vice-President, was heartily accorded by the large number of medical men who were present.

ST. BARTHOLOMEW'S HOSPITAL.

—The following appointments have been made at this hospital: Mr. A. Buck has been appointed senior house surgeon. Messrs. Ll. Jones, F.R.C.S., H. W. Maidlow, F.R.C.S., N. O. Wilson, R. Smith, and P. Furnivall have been appointed junior house surgeons. Messrs. J. Miller, B. Thorne Thorne, H. Troutbeck, and E. C. Bridges have been appointed senior house physicians. Messrs. J. Horne, P. Horton-Smith, C. S. de Segundo, and H. L. Brooksbank have been appointed junior house physicians. Mr. G. P. Shuter has been elected senior resident anæsthetist, and Mr. H. N. Hobart junior resident anæsthetist. Mr. E. H. E. Stack has been appointed intern midwifery assistant, and Mr. H. D. Stubbs extern midwifery assistant. Mr. J. Attlee has been appointed ophthalmic house surgeon.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

—At the annual stated meeting of the Royal College of Physicians of Ireland, held on St. Luke's Day, Oct. 18th, 1893, the following officers were elected for the ensuing year:—President: Walter G. Smith, M.D. Vice-President: John William Moore, M.D. Censors: John William Moore, M.D., Conolly Norman, F.R.C.P.I., Joseph O'Carroll, M.D., W. J. Smyly, M.D. Additional Examiners to take the place of an absent Censor: In Medicine—James Craig, M.D.; in Medical Jurisprudence and Hygiene—S. T. Gordon, F.R.C.P.I.; in Midwifery—L. Atthill, M.D. Examiners for Licence to practise Midwifery: Andrew J. Horne, F.R.C.P.I., A. V. Macan, M.B. Royal College of Physicians of Ireland Examiners under the Conjoint Scheme with the Royal College of Surgeons in Ireland, not including the above Censors, who also examine at the fourth professional examination: Biology—E. MacD. Cosgrave, M.D.; Chemistry and Physics—H. T. Bewley, M.D., E. Lapper, F.R.C.P.I.; Materia Medica and Pharmacy—N. M'L. Falkiner, M.B., F. J. B. Quinlan, M.D.; Physiology—John M. Purser, M.D.; Pathology—H. C. Earl, M.B.; Medicine—E. E. Lennon, F.R.C.P.I., and H. C. Tweedy, M.D.; Hygiene and Forensic Medicine—H. C. Earl, M.B. R.C.P.I. Examiners for the Conjoint Diploma in State Medicine: State Medicine and Hygiene—F. J. B. Quinlan, M.D.; Chemistry—E. Lapper, F.R.C.P.I.; Meteorology and Climatology—J. W. Moore, M.D.; Engineering—A. E. Murroy, C.E. R.C.P.I. Examiners in Preliminary Education: Science—E. MacD. Cosgrave, M.D.; Languages—H. T. Bewley, M.D. Representatives on the Committee of Management: J. Magee Finny, M.D., C. J. Nixon, M.D., G. P. L. Nugent, M.D. Representative on the General Medical Council: L. Atthill, M.D. Treasurer: L. Atthill, M.D. Registrar: G. P. L. Nugent, M.D. Mr. Reginald Waterfield was admitted a Licentiate in Medicine and Midwifery.

GUTHRIE SOCIETY, WESTMINSTER HOSPITAL.—On Thursday, Oct. 12th, the inaugural smoking concert of this Society for the session 1893-94 was held at the Medical School at 8.30 P.M. The newly-elected President, Dr. Donkin, was in the chair, and was supported by the following members of the staff: Dr. Sturges, Dr. Hebb, Mr. Bond, Mr. Black, Dr. Wilson Hake, Dr. Marett Tims, and Mr. De Santi. Fifty members were present and seven visitors. Twelve new members were elected. A most successful smoking concert was then proceeded with, in which the visitors rendered much-appreciated assistance. Towards the end of the evening Dr. Sturges rose to congratulate the President on the good attendance. He referred to the many advantages there were for the students at the hospital medical school, and especially for those who were members of the Guthrie Society. Mr. Bond, in a short speech, seconded the vote of congratulation to the President. The President replied, and the programme of the evening was then continued. The President announced that at the next meeting, which will take place on Nov. 9th, Mr. E. Sherlock, B.Sc. Lond., would read a paper entitled "The Theory of Recapitulation," to be followed by "My Experiences as a Railway Surgeon," by Mr. Thomas Bond, F.R.C.S., B.S.Lond.

THE SOCIETY OF ANÆSTHETISTS.—On the 19th inst. a very successful gathering of gentlemen practising as anæsthetists took place at Limmer's Hotel. It had been arranged by a series of preliminary meetings that an effort should be made to form a society under the above name, and the dinner in question was an inauguration of the accomplishment of this design. Mr. Woodhouse Braine occupied the chair, and after giving the Royal toasts called upon Dr. Dudley Buxton to propose "Success to the Society of Anæsthetists." Dr. Dudley Buxton, in the course of an interesting speech, explained the aims and objects of the new Society. It owed its origin, he said, largely to the energy and tact of Dr. Silk, and it was hoped that it would afford a focus for good scientific work in the department of medicine they represented as well as supply a common meeting place for anæsthetists living in different places. The ordinary meetings of the Society will, it was stated, be held on the third Thursdays in the month during the winter session in the rooms of the Society, 20, Hanover-square. Membership is restricted to medical practitioners holding, or having held, a hospital appointment as anæsthetist. Mr. Mackellar, in the course of a humorous speech, returned thanks for the visitors, and Dr. F. Hewitt proposed Mr. Braine's health. Some excellent music, supplied by the kindness of some friends of Dr. Dudley Buxton, helped to pass a successful and enjoyable evening. The newly elected officers for the year are:—President: Mr. Woodhouse Braine. Treasurer: Dr. Dudley Buxton. Secretary: Dr. Silk. Council: Mr. Stallard (Manchester), Mr. G. E. Norton. Auditors: Mr. Fingland (Liverpool), Mr. H. Davis.

CHARING-CROSS HOSPITAL.—The annual dinner of the past and present students took place on Friday, Oct. 20th, at the Holborn Restaurant. A fairly large company assembled, the tables being laid for 160, including the medical staff. The proceedings were enlivened by the welcome innovation of a string band, which performed some classical selections during the first part of the evening. The Chairman (Surgeon-Captain Leahy, F.R.C.S.), after the usual tribute to Royalty, proposed the toast of the "Medical Staff of the Hospital," and dwelt—as was the main tendency of all the speeches during the evening—on the progress which had been made during the last twenty years. Mr. J. Astley Bloxam, F.R.C.S., in reply, expressed gratification at the large numbers of men who had entered Her Majesty's services from that hospital, and assured the company that the staff were anxious to do everything that would conduce to the well-being of the main body of the students. "Past and Present Students" was the next toast on the list, and received graceful treatment from Dr. Murray, who, in the course of his speech, dwelt on the annual dinner as an opportunity for the "raw recruit" to meet and study with advantage his predecessors who were present. In reply, Dr. Colquhoun treated the social difficulties of medical students of twenty years ago in a very amusing speech, and expressed gratification at the welcome which was accorded to past students on this occasion. Mr. F. A. L. Hammond, replying for the general students, dwelt chiefly upon the students' club from a social and athletic point of view, both of which, he averred, showed the same upward tendency as the instructive. After the chairman's health had been proposed by Mr. Barwell, F.R.C.S., and shortly responded to, the evening came to a close with a vote of thanks to the dinner secretaries, Messrs. Phillips and Whitehead, followed by a number of musical selections.

THE QUEEN'S VISIT TO FLORENCE.—The information in THE LANCET (Oct. 7th) as to Her Majesty's intended visit to Florence next spring is confirmed by the *Opinione Nazionale* of that city, which in its issue of Oct. 24th says:—"There is at present among us an agent authorized to negotiate for the hire of a villa in which Her Majesty the Queen of England intends to reside for some weeks in the ensuing spring. Her Majesty has indicated a particular predilection for two very attractive villas near Montughi." We may add, from information received through another channel, that the villa most likely to be chosen is the Villa Fabricotti, situated, as we have already announced, in the suburb called Montughi, just off the Bologna road, commanding a splendid view and enjoying exceptionally pure air. The Villa Palmieri, which Her Majesty occupied on her last two visits, is no longer available.

THE ROYAL INFIRMARY, LIVERPOOL.—On the 24th inst. the Lord Mayor of Liverpool testified his interest in the work carried on in the Royal Infirmary by paying an official visit to that institution in company with the Lady Mayoress and their daughters. The officers of the infirmary, the majority of the medical staff, and other gentlemen welcomed the distinguished visitors in the board-room, where speeches appropriate to the occasion were made by the president, the treasurer and the chairman of committee. Sir Thomas Brocklebank proposed a vote of thanks to the Lord Mayor for his visit; this was seconded by Mr. Mitchell Banks, and was replied to by his lordship, who characterised the Royal Infirmary as one of the finest institutions in the kingdom. If its conductors experienced any financial difficulty in the future he was quite sure they could rely upon the citizens not only to remove the burden but to place them in a position to carry on more fully and pleasantly the beneficent work they had undertaken. After having been conducted through the various wards of the hospital the company dispersed.

THE GRAND JURY OF THE INTERNATIONAL EXHIBITION OF THE RED CROSS.—The jurors nominated by His Majesty King Humbert are Lieutenant-Colonel and Field-Adjutant on the Stato Maggiore, the Marchese Guerriero, and Dr. Saglione. Those nominated by the War Office are the Cavaliere Pistoia, Colonel on the Stato Maggiore, and the Cavaliere Galiani. The juror nominated by the Admiralty is the Commendatore Raffaele Bassi, sanitary inspector of the Navy. Those nominated by the Red Cross, in accordance with the respective Governments, are Prince Troubetskoi, military attaché of the Russian Embassy in Rome; General Cipolla, Medical Inspector-General of the Italian Army; Dr. Neidart, Surgeon-Major in the Bavarian Army; Dr. Myrdacz, Infantry-Surgeon in the Austrian Army; Dr. Forzensen, Medical Officier-en-Chef of the Danish Army; Lieutenant-Colonel Hernandez, of the Spanish Army; Dr. Gurlt, Professor-Extraordinary of Clinical Surgery in the University of Berlin; Dr. Ferrier, Member of the General Council of the Red Cross in Switzerland; and Mr. John Furley, England. The jury, composed of seven Italians, including the President and eight foreigners, will be presided over by the Senator della Somaglia.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY, LIMITED.—A meeting of the South London Division, No. 2, was held on Wednesday, the 18th inst., in the Elders' Room, Christ Church, Westminster-bridge-road, S.E. The President, Dr. J. W. J. Oswald occupied the chair and there were seventeen members present. Mr. G. B. Mead introduced the subject of unqualified practice and described the methods proposed for its suppression. The discussion was continued by the President and Dr. Gaff, Mr. Nelson Hardy, Mr. Campbell Boyd, Dr. Atkinson, Dr. Hart, Dr. Sturges, and Dr. Leftwich. Finally, it was proposed by Dr. Leftwich, seconded by Mr. Boyd, and carried unanimously—"That this meeting approves of the following resolution to be proposed by Mr. Mead at the Central Council—'That the Council be empowered to form a special committee to receive subscriptions for the purpose of dealing with cases of unqualified practice, such fund to be kept entirely distinct from the ordinary funds of the Society, but administered by such committee under the direction of the Council.'" The following gentlemen were added to the Council of the division: Dr. W. A. Atkinson, Camberwell; Dr. C. T. Brookhouse, Brockley; Mr. C. A. Clarke, Forest Hill; Dr. J. D. Gaff, Kennington; Dr. F. J. Hart, Sydenham; Mr. H. S. Robinson, Camberwell; and Mr. R. J. Swan, Camberwell. The meeting then adjourned.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ADAMS, J., M.D., St. And., M.R.C.S., has been appointed Medical Officer of Health for the Barnes Urban Sanitary District of the Richmond Union, Surrey.

ALDOUS, G. F., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer to the Plymouth Public Dispensary.

BARTLETT, G. H., M.B., M.S. Edin., has been appointed Resident Medical Officer for the Irivin District, and Quarantine Officer for the Port of Dongara, Western Australia.

BASKETH, B., B.A. Oxon., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant to the National Hospital for Diseases of the Heart and Paralysis, 32, Soho-square, W.

BETENSON, M.B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Bungay Sanitary District of the Wangford Union.

BOROUGH, F., M.R.C.S., has been reappointed Medical Officer for the Derby Provident Dispensary.

BRITTIN, F. G. M., M.R.C.S., has been appointed an additional Public Vaccinator for the District of Christchurch, New Zealand.

BROOKES, EDWARD, M.B. Melb., has been appointed Visiting Medical Officer to the Yatala Labour Prison, South Australia, vice Nesbitt, resigned.

BUCHAN, W. A., M.B., C.M. Edin., has been reappointed Medical Officer to the Plymouth Public Dispensary.

BUTLER-HOGAN, J. F., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for St. Leonard's, Shoreditch, E.

COPESTAKE, W. G., M.R.C.S., has been reappointed Medical Officer for the Derby Provident Dispensary.

CRAIG, JOHN, L.R.C.P., L.R.C.S. Irel., has been appointed a Public Vaccinator for the District of Ross, New Zealand.

CURGENVEN, W. G., M.D. St. And., M.R.C.S., has been reappointed Medical Officer for the Derby Provident Dispensary.

DAVIES, J., L.R.C.P., L.R.C.S. Edin., has been apoointed Honorary Medical Officer to the No. 3 District of the Ladies' Charity and Lying-in Hospital, Liverpool.

DICK, J. LAWSON, M.B., C.M. Edin., has been appointed House Surgeon to the Clinical Hospital for Women and Children, Manchester.

DIXON, C. J. WHITEHEAD, M.B. & C.M. Edin., has been appointed Resident Medical Officer to the Royal Hospital for Diseases of the Chest, City-road, London.

EDDOWES, ALFRED, M.D., F.R.M.C.S., has been appointed Physician to the Western Skin Hospital, vice F. A. Cox, M.B., deceased.

FOULDS, H. J., M.R.C.S., has been reappointed Medical Officer for the Derby Provident Dispensary.

FOX, E. L., M.A., M.D. Camb., M.R.C.P. Lond., has been appointed Physician to the South Devon and East Cornwall Hospital, Plymouth.

FROST, W. A., F.R.C.S., M.L.R.C.P. Lond., has been appointed Ophthalmic Surgeon to St. George's Hospital.

GABRIEL, C. L., L.R.C.P., L.M., L.R.C.S. Edin., has been appointed Government Medical Officer and Vaccinator for the District of Gundagai, New South Wales.

HARAN, J. A., M.B., B.Ch. Dubl., has been appointed Honorary Physician to St. John's Hospital, Limerick.

HAYDON, ARTHUR GEORGE, M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Electrician to St. Bartholomew's Hospital.

HEWER, A. E., M.B., Ch.M. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Cottage Hospital at Longreach, Queensland.

HUTTON, J. R., M.B., Ch.M. Edin., has been appointed Honorary Surgeon to the Castlemaine Hospital, Victoria, Australia.

LUCKHAM, L. S., M.R.C.S., has been appointed Medical Officer or the Workhouse of the Alderbury Union.

MARTIN, ALBERT MORTON, has been appointed Surgical Registrar to the Royal Infirmary, Newcastle-on-Tyne.

MCCREE, R.H.A., L.R.C.P. Lond., has been appointed Clinical Assistant to the National Hospital for Diseases of the Heart and Paralysis, 32, Soho-square, W.

MOFFITT, J. E. J., L.K.Q.C.P., L.R.C.S. Irel., has been appointed a Medical Officer of the United Friendly Societies' Dispensary at Balmain, Sydney, New South Wales.

O'NEILL, JOHN, M.D. Edin., has been appointed Honorary Surgeon to the Castlemaine Hospital, Victoria, Australia.

PEARSON, H.A., L.R.C.P. Lond., L.R.C.P., L.R.C.S. Edin., has been appointed Medical Officer for the Inkberrow Sanitary District of the Alcester Union.

REES, A. H., L.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer to the Plymouth Public Dispensary.

SCATERLEY, WM., M.B., C.M. Aberd., has been appointed Medical Officer to the Keighley and Bingley Joint Hospital Board.

SMITH, WILLIAM R., M.B. Lond., M.R.C.S., L.R.C.P., L.S.A., has been appointed House Surgeon at St. Peter's Hospital for Stone, Covent Garden.

SNAPER, E. A., L.R.C.P. Lond., L.S.A., has been appointed Clinical Assistant to the National Hospital for Diseases of the Heart and Paralysis, 32, Soho-square, W.

TAYLOR, F. E., M.R.C.S., has been reappointed Medical Officer for the Derby Provident Dispensary.

VAUDREY, E., M.D. Edin., M.R.C.S., has been reappointed Medical Officer for the Derby Provident Dispensary.

WALSH, DAVID, M.B., L.R.C.P., has been appointed Assistant Physician to the Western Skin Hospital.

WELLFORD, F., M.B., B.S. Camb., has been appointed Government Medical Officer at Winton, Queensland.

WILSON, J. E. C., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer to the Plymouth Public Dispensary.

WRAY, C. J. H., L.R.C.P., L.R.C.S. Edin., has been appointed Government Medical Officer, and also Visiting Surgeon to the Prisons at Brisbane and Fortitude Valley, Queensland, vice Tilston.

WRIGHT, J. L., L.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer for the Derby Provident Dispensary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BELGRAVE HOSPITAL FOR CHILDREN, 77 and 79, Gloucester-street, S.W.—Physician in Charge of the Out-patients.

CHARING-CROSS HOSPITAL, W.C.—Surgeon Dentist.

CHELTENHAM GENERAL HOSPITAL.—Resident Surgeon, unmarried, or, if married, without family. Salary £180 per annum, with partly furnished house, coal, and gas.

FINCHLEY LOCAL BOARD.—Medical Officer of Health for the Finchley Urban Sanitary District. Salary at the rate of £100 per annum. Applications to the Clerk to the Board, Offices, Church-end, Finchley.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, W.C.—A Resident Medical Officer required as House Physician for six months, unmarried. Salary £20, with board and residence in the hospital.

HOSPITAL FOR WOMEN, Soho-square, W.—Assistant Physician.

NATIONAL SANATORIUM FOR CONSUMPTION AND DISEASES OF THE CHEST, Bournemouth.—Resident Medical Officer and Secretary. Salary £120 per annum, with board and lodging.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION, Ventnor.—Assistant Resident Medical Officer, unmarried. Salary £70 per annum, with board and lodging in the hospital

SMEDLEY'S HYDROPATHIC ESTABLISHMENT, Matlock.—Assistant House Physician for six months. Board and lodging &c. provided and honorarium of 20 guineas.

STROUD GENERAL HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

TORBAY HOSPITAL AND PROVIDENT DISPENSARY, Torquay.—Junior House Surgeon and Dispenser, unmarried. Salary £80 per annum, with board, lodging and attendance (wine, spirits, beer and washing excepted).

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck-street, Cavendish-square, W.—Honorary Resident Medical Officer.

Births, Marriages and Deaths.

BIRTHS.

BOUSFIELD.—On Oct. 20th, at Old Kent-road, S.E., the wife of Edward C. Bousfield, L.R.C.P. Lond., of a son.

CALDECOTT.—On Oct. 18th, at The Grove, Jersey, the wife of Charles Caldecott, M.B., B.S. Lond., of a son.

HAYNES.—On Oct. 24th, at Leamington, the wife of Frederick H. Haynes, M.D. Lond., J.P., of a son.

JEANS.—On Oct. 22nd, at Queensferry, N.B., the wife of Francis Austen Jeans, Staff Surgeon R.N., H.M.S. *Galatea*, of a son.

MACBRYAN.—On Oct. 21st, at Kingsdown House, Box, Wilts, the wife of H. C. MacBryan, L.R.C.P. Ed., of a son.

SMITH.—On Oct. 17th, at Kensington-gardens-square, Bayswater, the wife of Dr. Stanley Smith, of a daughter.

THORNTON-CHALLIS.—On Oct. 18th, at Walthamstow, the wife of H. Thornton-Challis, M.D., of a daughter.

WALLACE.—On Sept. 24th, at Calcutta, the wife of James R. Wallace, M.D., of a son.

MARRIAGES.

CARRUTHERS—HODGSON.—At Ainstable Church, Cumberland, on Oct. 26th, by the Rev. W. G. C. Hodgson, assisted by the Rev. A. G. Loftie and the Rev. L. Morgan, William Hodgson Carruthers, M.D., F.R.C.S., of Halton House, Cheshire, to Mabel, youngest daughter of the late Rev. J. L. Hodgson, of Wetherel, Cumberland.

CARTER—BOOTH.—On Oct. 25th, at the Parish Church, Hampstead, by the Rev. S. B. Burnaby, Vicar, William Robson Carter, M.A., M.B. Camb., of Warwick, son of the late William Edward Carter, Esq., of Pontefract, to Margaret Agnes, second daughter of Richard Booth, Esq., of Glendon Hall, Northamptonshire and St. Aubyn's, West Brighton.

DEATHS.

BRODIE.—On Oct. 17th, at the Grange, Market Stainton, Lincolnshire, Robert Charles Brodie, M.B., C.M., 24, Buckingham-terrace, Glasgow, aged 27.

CREW.—On Oct. 20th, at Alderley Edge, Cheshire, Eli Crew, M.R.C.S., L.R.C.P., L.S.A., L.M. Lond., aged 51 years.

IRVINE.—On Oct. 14th, at Craigatin, Pilochry, N.B., William Stewart Irvine, M.D., F.R.C.S.E., aged 81.

PATERSON.—On Oct. 18th, at 4, Coates-crescent, Edinburgh, George Andrew Paterson, Esq., M.D., F.R.C.P.E.

WALKER.—On Oct. 21st, at 11, Hamilton-square, Birkenhead, George Walker, M.D., M.R.C.S., aged 78.

WILKINSON.—On Oct. 26th, at 35, Gloucester-gardens, Hyde-park, T. Lyte Wilkinson, M.D.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages and Deaths.

Medical Diary for the ensuing Week.

Monday, October 30.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2.30 P.M.; Friday, 2 P.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M.; and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M.; Thursday, 2 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.; and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL. Ear and Throat Department, 9 A.M: Thursday, 9 A.M Eye Department, 2 P.M
ROYAL EYE HOSPITAL, SOUTHWARK.—Hour of attendance, 2 P.M., and other days at the same hour. Operations daily.
LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital, Moorfields: 1 P.M., Mr. R. Marcus Gunn: External Examination of the Eye.
THROAT HOSPITAL (Golden-sq.).—5 P.M. Lecture by Dr. N. Wolfenden.
ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-sq., W.C.)—5.30 P.M. Dr. Morgan Dockrell: Diagnosis and Pathology of Eczema.
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. G. H. Savage: Some Mental Disorders associated with the Menopause.—Dr. A. Morison: The Heart in Infantile Convulsions.

Tuesday, October 31.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Skin Department, 1.45; Saturday, 9.15.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day. 2 P.M
LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars: 4 P.M., Mr. Jonathan Hutchinson: Second Attacks of Syphilis. Bethlem Hospital: 2 P.M., Dr. Percy Smith: Developmental Insanity, Circular Insanity.

Wednesday, November 1.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday and Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M Surgical Visits on Wednesday and Saturday at 9.15 A.M
LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. Sidney Martin: Cases of Quiescent Pulmonary Tuberculosis.—Royal London Ophthalmic Hospital, Moorfields: 8 P.M., Mr. A. S. Morton: Optic Neuritis.
THROAT HOSPITAL (Golden-sq.).—5 P.M. Dr. F. G. Harvey: Methods of Examination in Ear Disease (illustrated by cases).

Thursday, November 2.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.
LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Gt. Ormond-st.: 3.30 P.M., Mr. Bernard Pitts: The Treatment of Diseases of Joints in Children.—National Hospital for the Paralysed and Epileptic: 2 P.M. Dr. Beevor: Paralysis Agitans and Tremors.—London Throat Hospital (Gt. Portland-st.): 8 P.M., Mr. G. Stoker: Impaired Movements of the Vocal Cords.—Central London Sick Asylum: 5.30 P.M., Mr. John Croft: Cases in the Wards.
HARVEIAN SOCIETY.—8.30 P.M. Dr. Robert Boxall: Dislocation of the Heart into the Left Pleural Cavity.—Sir William Broadbent, Bart.: Dilatation of the Stomach.

Friday, November 3.

UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M
LONDON POST-GRADUATE COURSE.—Hospital for Consumption, Brompton: 4 P.M., Dr. Sidney Martin: Cavities in the Lungs.
WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—8 P.M. Pathological Specimens:—Dr. Schacht: Uterus, showing one of the Dangers of Tents.—Dr. Campbell Pope: Tapeworm. Papers:—Dr. Abraham: Ringworm and Alopecia Areata and their Treatment.—Dr. Chapman: Night Terrors.

Saturday, November 4.

UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 9.15 A.M.
LONDON POST-GRADUATE COURSE.—Bethlem Hospital: 11 A.M., Dr. Hyslop: Puerperal and Lactational Insanity.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, October 26th, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Rainfall.	Remarks at 8.30 A.M.
Oct. 20	30·39	S.W.	51	50	76	60	45	—	Foggy
,, 21	30·28	S.W.	56	55	106	66	51	.	Cloudy
,, 22	30·22	S.W.	55	55	59	57	55	·14	Raining
,, 23	30·45	W.	44	43	81	57	41	·12	Foggy
,, 24	30·40	W.	49	47	71	56	42	—	Overcast
,, 25	30·11	S.W.	53	51	62	57	48	..	Overcast
,, 26	29·83	S.W.	49	47	85	57	47	·08	Bright

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

SALE OF A RELIC OF DR. EDWARD JENNER.

A CURIOUS relic of the celebrated Edward Jenner has just changed hands at the auction-rooms of Messrs. Debenham, Storr and Sons. It consisted of a massive 18 carat gold box, weighing over 11½ ozs., finely chased and engraved, having on the top an oval enamel representing a seated female figure emblematical of the City of London extending the hand of friendship to the illustrious discoverer of vaccination; other enamels on the sides of the box bore the city arms and emblems &c. On the under side of the box was the following inscription: "Presented to Edward Jenner, M.D., LL.D., F.R.S. &c. by the Corporation of London, 11th August, 1803, in the mayoralty of the Right Honourable Charles Price, M.P., as a token of their sense of his skill and perseverance in the discovery of, and bringing into general use, the vaccine inoculation." The price paid for the relic was 100 guineas.

Lignum.—If our correspondent's principal engaged him unconditionally he is not entitled to any fees earned by himself.

Mr. J. G. Braden.—Nature (weekly) and *Natural Science* (monthly), both published by Messrs. Macmillan and Co.

TEXT-BOOKS OF HYGIENE.

To the Editors of THE LANCET.

SIRS,—Would you kindly advise me in THE LANCET which are the best and recognised books to study for the Public Health diploma? Which book on hygiene would best meet the requirements of medical officers of health for reference &c.? Which is the best and most recent medical dictionary? I am, Sirs, yours faithfully,

Oct. 11th, 1893. MEDICAL PRACTITIONER.

*** 1. Text-books of Hygiene: Parkes' Manual of Practical Hygiene; Wynter Blyth's Manual of Public Health; Louis Parkes' Text-book of Public Health. Analysis: C. Fox—Sanitary Examination of Water, Air, and Food; Kenwood—Public Health Laboratory Work. Vital Statistics: Newsholme's Vital Statistics; Farr's Vital Statistics; Reports of the Registrar-General. Sanitary Law: Wynter Blyth's Lectures and the Chief Laws relating to Public Health; Model By-laws of the Local Government Board. Sanitary Engineering: Galton's Healthy Dwellings; Corfield's Dwelling-houses; Corfield's Treatment and Utilisation of Sewage; Galton on the Construction of Hospitals.—2. Willoughby's Medical Officers' Handbook.—3. Fowler's Dictionary of Practical Medicine; Quain's Dictionary of Medicine.—ED. L.

"MAKING A SPECIALTY."

THE following letter has been sent to us in explanation of a paragraph which we quoted in THE LANCET of Oct. 14th from the *Jersey Evening Post* under the above heading. We are glad to insert the letter. Mr. Le Cronier very properly placed the matter in the hands of his solicitor for inquiry. The solicitor, Mr. MAX E. Alavoine, received the following reply from the sub-editor of the *Evening Post*. The letter shows how innocently a medical practitioner may be the subject of a newspaper notice which he himself would be unlikely to approve:—

"*Ile* Le Cronier. "Jersey, Oct. 20th, 1893.

"DEAR SIR—In reply to your inquiry, I have to state that the local item which appeared in our issue of the 30th ult. with respect to Dr. H. Le Cronier was collected by one of our reporters in the usual way, and, we believe, some days after Dr. Le Cronier's departure from the island. It is customary in Jersey to report in the local items all matters referring to municipal officers, and, as Dr. Le Cronier has fulfilled for a number of years the important duties of municipal medical adviser, we have merely recorded this item in the ordinary way.—I have the honour to be, dear sir, your obedient servant, "P. W. DE QUETTEVILLE,

"Sub-editor, *Jersey Evening Post*.

"MAX E. ALAVOINE, Esq., Solicitor."

Messrs. John Weiss and Son.—We have no doubt there is some reason in the complaint which our correspondents make. They will, however, we think, on reflection acknowledge that their suggestion to give "manufacturers the opportunity of offering their remarks to the editor on any assumed new invention before the same is published" is not only utterly impracticable, but in some cases might be highly objectionable. Moreover, the time of editors is not wholly unoccupied.

DRUGGISTS PRESCRIBING SUPPORTED BY A MEDICAL MAN.

AMONG prevalent quackeries none is more injurious than the wholesale prescription of one remedy for a common ailment, without respect to the peculiarities of the individual case. Mr. W. B. Baynham, chemist, announces to the public in a handbill the discovery of Baynham' headaches powders, which are to relieve the malady in ten minutes and to cure it in less than an hour. Of course he has testimonials from Jane-this and Alice-the-other. But the following testimonial is not so easy of explanation. We should be pleased to know how a medical man can justify to himself the endorsement of such a piece of injurious quackery. Jane and Alice may have been temporarily relieved of their headaches, but who shall tell us the harm done by such a system?—

"*Medical Testimony.*—9, Lyndhurst-road, S.E., Nov. 12th, 1889.—I have no hesitation in bearing testimony to the efficacy of Mr. Baynham's headache powders. I have found them all they profess to be.—GEORGE NEWPORT PICKSTOCK, M.D."

M.B., Jun.—On the principle *qui facit per alium facit per se* our correspondent has, we consider, a legal claim to his fee. If the authorities employ a person and give him a discretionary power to summon to his aid a medical man, the latter is surely entitled to remuneration for his services. If the constable committed a blunder it was no concern of our correspondent, and as to whether a conviction follows or not we are at a loss to see in what way it can vary his title to payment.

A WARNING.

To the Editors of THE LANCET.

SIRS,—May I through the publicity of the pages of THE LANCET warn the Middlesex Hospital men and others against a person who, representing himself as Mr. Frank Smith of Coventry, is going about asking for small temporary loans for payment of railway fare home &c., having had his pocket picked and lost his purse. He called on me early last week and by his knowledge of hospital matters imposed on me and on two others of the hospital staff. Mr. F. Smith, writing to me from Coventry, says that he was last year personated by this person, who fraudulently obtained a loan of £3 from a former Middlesex Hospital student. I am, Sirs, yours faithfully,

Oct. 23rd, 1893. J. W. H.

SURGICAL PRACTICE IN CHINA.

Dr. J. C. Thomson, a medical missionary in China, has written a very interesting article in the *Medical Missionary Journal*, published in Shanghai, in which he describes various noticeable features connected with his professional work among the Celestials. For example, when an important surgical operation becomes necessary the Chinaman will endure without flinching an amount of pain which to the more highly developed nervous system of the European would appear to be insupportable. The sequelæ of serious operations, moreover, are usually inconsiderable. The same writer believes that the Chinese are fitted to take a respectable place as surgeons, and that their work in surgery is likely to give favourable results, though the opposition to foreign interference with the native cult is almost certain to be very formidable. Each individual who has been submitted to the surgeon's knife becomes the centre of a little circle prepared to pin their faith to the methods adopted by the skilled foreigner, and these circles are gradually increasing in number.

SOSTRATOS: A PHYSICIAN OF ANCIENT DAYS.

THE minute research and comprehensive erudition so characteristic of German scholarship are well illustrated by a monograph recently published by Herr Wellmann upon a comparatively unknown Greek medical author—Sostratos. Herr Wellmann's article is to be found in *Hermes*, the journal edited by the venerable Mommsen, and is entitled "Sostratos: ein Beitrag zur Quellenanalyse des Ælian." He tells us that Sostratos was probably a physician of Alexandria and flourished about thirty years before the Christian era, at the time of the Battle of Actium. Herr Wellmann, for the purpose of making his account of this writer as complete as possible, has searched through well-nigh all Greek medical literature subsequent to that period, as well as the usual classical writers. He considers that Sostratos' most valuable productions must have related to toxicology, tracing excerpts from him upon this subject in Ælian, Athenæus, the "Scholia" of Nicander, and other works. In referring to these writers, however, he gives us important references to other medical writers and much information relating to the history of medicine and surgery, such a subject as lithotomy—an account of which to be found in Celsus he attributes originally to Sostratos—being among those upon which light is thrown. He also finds traces of Sostratos' work in Hesychius and altogether succeeds in tracing eighteen references to this ancient physician, whom he thus rescues from oblivion.

Lex.—There are two official analysts appointed by the Home Office—Dr. Stevenson, Lecturer on Medical Jurisprudence at Guy's Hospital, and Dr. Luff, who holds a similar post at St. Mary's Hospital. In cases where expert surgical and pathological evidence is required the Treasury usually call in Mr. Bond of the Westminster Hospital or Mr. Pepper of St. Mary's Hospital, but these gentlemen have no standing engagement.

A CORRECTION.

To the Editors of THE LANCET.

SIRS,—On referring to vol. xxii. of the Clinical Society's Transactions I find that in Dr. Semon's case of incomplete Graves' disease there was unilateral exophthalmos, but no enlargement of the thyroid gland, as I stated in the discussion on Mr. Maude's paper at the Medical Society's meeting on Monday last.

I am, Sirs, yours faithfully,

Oct. 24th, 1893. F. DE HAVILLAND HALL.

IS THIS ADVERTISING?

THE question is put to us with reference to a handbill announcing that the chair at a smoking concert will be taken by a medical man, to whose name an ornamental M.D. is added, and that "..... have been engaged for the evening." We are not disposed to blame the medical man in question for the superfluous title, which looks more like the work of the officials of the benefit society. Though we do not admire the advertisement of a professional man's name in connexion with smoking concerts, we regard it more as a question of taste, and of what might fairly be called "minor professional morals," than of grave breach of professional etiquette.

MICROBES ON BANK NOTES.

SOME investigations have recently been carried out by two Viennese bacteriologists in order to ascertain the microbe-carrying power of bank notes. In two cases, after the notes had been in circulation for a considerable time, the investigators estimated the number of microbes on each note to be over 19,000. They have, it is said, discovered a specific microbe which has a deadly effect upon animals inoculated with it. Besides this bacillus, eight pathogenic species were found, among them being the bacilli of tuberculosis and diphtheria, and the streptococcus of erysipelas.

THE RULE OF CALL.

M.D., M.R.C.S.—The etiquette is simply to act on professional lines of conduct. In London, as elsewhere, it is kindness on the part of a gentleman in practice to call on new beginners; but London is such a big place that this rule must not be relied on, or its non-observance attributed to any ungenerous feeling. Rather is it right for the newcomer, with his greater leisure, to call on those established in practice.

During the week marked copies of the following newspapers have been received:—*Halifax Free Press, The New York World, Northern Whig, Echo, Nature, Morning, Evening Post (New York), Weekly Free Press and Aberdeen Herald, Mining Journal, Local Government Chronicle, West Middlesex Standard, Reading Mercury, City Press, Leeds Mercury, Yorkshire Post, Liverpool Daily Post, Bristol Mercury, Le Temps (Paris), Builder, Sunday Times, Architect, Times of India, Pioneer Mail, Hertfordshire Mercury, Surrey Advertiser, Local Government Journal, Argus (Melbourne), Guy's Hospital Gazette, Le Courrier de la Presse (Paris), Brisbane Telegraph, Chichester Observer, Aberystwith Observer, Buxton Herald, Croydon Chronicle, Invention, Liverpool Courier, Border Counties Gazette, Brighton Herald, Hereford Times, Southern Times, Brighton Gazette, Scottish Leader, Medical Record (New York), Jarrow Express, Scotsman, East Anglian Daily Times, Nottingham Daily Express, Ripon Chronicle, Auckland Chronicle, Salisbury Journal, Citizen, &c. &c.*

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Letters, each with enclosure, are also acknowledged from—

A.—Dr. E. Allen, Hawes; Mr. J. W. Atkinson, Belfast; Mr. W. B. S. Allan, Falkirk; Miss Adelaide, London; Analy, London; A., London.

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W.—Dr. A. J. Wall, London; Mr. R. Warrener, Peterborough; Mr. W. W. Williams, St. David's; Mr. R. M. Woodward, Rotterdam; Mrs. Worthington, Devonport; Messrs. Wilson and Coventry, London; West Malling Union, Clerk of; Whin, London.

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